REPORT RESUMES

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IMPROVING ACADEMIC ACHIEVEMENT THROUGH STUDENTS' SELF-CONCEPT ENHANCEMENT--SELF-CONCEPT OF ABILITY AND SCHOOL ACHIEVEMENT, II.

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THIS STUDY'S PURPOSE WAS TO ENHANCE THE SELF-CONCEPT OF ABILITY OF LOW-ACHIEVING, JUNIOR HIGH SCHOOL STUDENTS AND, SUBSEQUENTLY, INCREASE THEIR ACHIEVEMENT THROUGH--(1) MODIFICATION OF IMAGES AND EXPECTATIONS HELD BY PARENTS, (2) DIRECT CONTACT WITH AN "EXPERT," COMMUNICATING INFORMATION TO ENHANCE SELF-CONCEPT OF ABILITY, AND (3) INTERACTION WITH A COUNSELOR, HOLDING POSITIVE AND HIGH EXPECTATIONS FOR THE STUDENTS. THREE 1-YEAR EXPERIMENTS WITH NINTH-GRADE STUDENTS AND A LONGITUDINAL STUDY OF APPROXIMATELY 500 STUDENTS IN AN URBAN SCHOOL SYSTEM REVEALED THAT A SIGNIFICANT INCREASE IN BOTH SELF-CONCEPT OF ABILITY AND GRADE-POINT AVERAGE WAS EFFECTED BY WORKING WITH PARENTS WHO REPRESENTED ACADEMIC SIGNIFICANCE TO THEIR CHILDREN. "EXPERT" AND COUNSELING TREATMENTS FAILED TO INDUCE SIGNIFICANT CHANGES IN EITHER SELF-CONCEPT OR ACHIEVEMENT. REFER TO ED 002 946 FOR PRECEEDING INVESTIGATIONS IN THE SUBJECT AREA. (JM)

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Self-Concept of Ability and School Achievement, II

Second Report on the Continuing Study of the Relationships of Self-Concept and Achievement

ER 31

Bureau of Educational Research Services
College of Education
Michigan State University
East Lansing, Michigan

SELF-CONCEPT OF ABILITY
AND SCHOOL ACHIEVEMENT, II

Second Report on the Continuing Study of the
Relationships of Self-Concept and Achievement

and

Final Report on Cooperative Research Project No. 1636

entitled

Title → Improving Academic Achievement through
Students' Self-Concept Enhancement

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Bureau of Educational Research Services
College of Education
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PREFACE

This report is the second in a series of three concerned with the self-concept of ability research program at Michigan State. This research has been jointly supported by the Cooperative Research Program of the U. S. Office of Education and Michigan State University. The former support is provided in Contracts 845, previously reported; 1636, covered in this report; and the continuing work under Contract 2831. The three projects are different phases of a study of the relation of self-concept of ability to school achievement among students in a single age-grade in a large school system during the six years in which this age group was in the 7th to 12th grades. The first report covered the preliminary phases and a cross-sectional study of the 7th grade. This report includes the results of three experiments designed to enhance self-concept of ability and the longitudinal analysis of stability and change in the major variables from the 7th to 10th grade.

This research is based on the theoretical framework commonly identified as the symbolic interactional theory of behavior. The basic postulate is that academic behavior or school learning is limited by the student's self-concept of his ability in these areas. We further postulate that self-concept results from the expectations and evaluation held by significant others as perceived by the student. The research program was designed to test hypotheses derived from this theoretical framework.

The authors wish it were possible to give full credit to all who assisted in this research. The large number involved and the commitment not to identify the schools or individual students makes this impossible. We wish to express publicly our thanks to the hundreds of students who have made this research possible by responding to our questions each year during their junior and senior high school careers. The cooperation of the school administration, the data processing staff, and teachers in the several schools has been wholehearted and generous. We appreciate the many inconveniences which we have caused, and thank them for making this research possible.

We cannot identify all the Michigan State University staff and students who have assisted this research program in many ways because there were so many. No project of this magnitude, extending over several years, could be carried out without the help of large numbers of people performing numerous varied tasks. We extend our thanks to all.

The day-to-day and month-to-month performance of data gathering, processing and analysis, has been facilitated throughout the program by the dedicated work of Mrs. Natalie Sproull. Our thanks does not give adequate credit for her continued interest, creative suggestions, and untiring efforts to keep the project running smoothly.

Mr. Lee Joiner and Mr. Corey Krugh, as graduate research assistants, have contributed beyond the call of duty during this phase of the project and are assuming major roles in the third phase now underway.

Mrs. Ann Paterson was a full time member of the professional staff during the first phase of the study and when the design of the second project reported here was developed. The entire project reflects her many contributions to it.

The dedicated efforts of Mrs. Josephine Wharton, the senior author's secretary throughout the period of this research, has facilitated the work in innumerable ways.

Mrs. Jackie Fennema typed the report in numerous versions including the final stencils. We appreciate her untiring efforts pleasantly given.

Mrs. Roslyn Blum's editorial pen did much to improve this manuscript, but unfortunately some sections did not benefit from her skill.

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CHAPTER 1

INTRODUCTION

The challenge of educating the youth of today is of vital concern to adults faced with the intellectual demands of an increasingly complex era. The intellectual revolution of the past century has produced a vast body of knowledge and skills which require a greater proportion of individuals who are more highly educated. The responsibility for assisting all individuals to develop and utilize those skills in creative and imaginative ways is of prime concern to meet the ever-changing demands of a space-oriented society.

Current discussion of the need for higher levels of training and education to meet the advanced technological complexity of our society has encountered an obstacle in a basic assumption of the field of educational testing and placement.[1] In view of an increasing need for persons with high levels of training, it is essential that there be an increase in the supply of persons who are considered able to attain such proficiency. The traditional search has been for "talented" individuals, seemingly endowed with a "gift." Basic to this search is the assumption that only a relatively small and constant proportion of the population is capable of superior achievement. James B. Conant, for example, assumes that only 15 to 25 percent of the high school youth in the United States can profit by higher education in mathematics, science, and foreign languages.[2]

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[1] See Wilbur B. Brookover. "A Social Psychological Conception of Classroom Learning," School and Society, LXXXVII (1959), 84-87; Ronald G. Corwin. "An Alternative to the Search for Talent," mimeographed paper delivered at the Ohio State University Counseling and Guidance Training Institute, 1962; Robert J. Havighurst. American Higher Education in the 1960's (Columbus, Ohio: Ohio State University, 1960).

When it is assumed that only one-fifth to one-fourth of our students have the talent necessary for high achievement and that little can be done for the others, the nation's collective achievement and development have been limited unnecessarily. As a result, our society is greatly handicapped in competing with other societies which assume that nearly all students have the ability to achieve at high levels. The basic assumption of this study, that achievement for most students can be raised by self-concept enhancement, implies that a narrow conception of fixed limits in student potential or capacity is invalid.

The Problem and General Theory

Perceptual psychologists such as Combs and Snygg[3] and others have for some time emphasized the importance of the individual's perception in what has been identified as intelligence or ability to learn. While the theoretical orientation of the experimental approach reported here is compatible with this theory, it is more directly derived from the symbolic-interactionist theory of George Herbert Mead.[4]

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[2] James B. Conant, The American High School Today (New York: McGraw-Hill, 1959), p. 20.

[3] Arthur W. Combs and Donald Snygg, Individual Behavior (2nd Edition, New York: Harpers, 1959).

The general hypothesis derived from this theory is that the functional limits of one's ability are in part set by one's self-conception of ability to achieve in academic tasks relative to others. This self-concept of ability is acquired in interaction with significant others.

> "In this context, the self is the intervening variable between the normative patterns of the social group or the role expectations held by significant others, on one hand, and the learning of the individual, on the other. We hypothesize that, for the expectations of others to be functional in a particular individual's behavior, they must be internalized and become a part of the person's conception of himself. Although we recognize the relevance of self in all aspects of human behavior, our interest at this point is in a particular aspect of self as it functions in the school learning situation. We postulate that the child

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[4] George H. Mead, Mind, Self and Society (Chicago: University of Chicago Press 1934). The authors have also been influenced by the theoretical work of John W. Kinch, "A Formalized Theory of the Self-Concept," The American Journal of Sociology, LXVIII (1963), 481-486; Combs and Snygg, op. cit.; and Harry S. Sullivan, Conceptions of Modern Psychiatry (Washington, D.C.: William Alanson White Psychiatric Foundation, 1947).

> acquires, by taking the role of the other, a perception of his own ability as a learner of the various types of skills and subjects which constitute the school curriculum. _If_ the child perceives that he is unable to learn mathematics or some other area of behavior, this self-concept of his ability becomes the functionally limiting factor of his school achievement. "Functional limit" is the term used to emphasize that we are speaking not of genetic organic limits on learning but rather of those perceptions of what is appropriate, desirable, and possible for the individual to learn. We postulate the latter as the limits that actually operate, within broader organic limits, in determining the nature or extent of the particular behavior learned."[5]

This research project is dedicated to the discovery of strategies for enhancing the self-concepts of students who are impeded in their performance by low self-evaluations of academic ability.

Prior investigations by the authors have clearly indicated that self-concept of ability functions independent of measured intelligence in predicting school achievement.[6] Results further indicated that a student's self-concept of ability is positively related to the image he perceives significant others such as parents, teachers, and peers hold of him. This finding was consistent with the findings in other studies which support the theory that the self-concept an individual holds is learned from interaction with other individuals.[7] In an investigation of the relationship of the self-concept of eighth and ninth grade pupils to the ideal held for them by their parents, Helper[8] found small but positively related correlations between parental evaluations and children's self-evaluations.

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[5] Wilbur B. Brookover and David Gottlieb. _A Sociology of Education_ (2nd Edition, New York: 'American Book Company 1964), p. 469.

[6] Wilbur B. Brookover, Ann Patterson and Shailer Thomas, "Self-Concept of Ability and School Achievement," Final Report of _Cooperative Research Project #845_, U.S. Office of Education, (East Lansing: Bureau of Research and Publications, College of Education, Michigan State University, 1962).

Earlier theories relevant to the idea that one's self-concept is shaped through interaction with others were stated by Charles Horton Cooley in 1909,[9] and in the posthumous publications of George Herbert Mead.[10] Only in recent years, however, have research studies been reported which have tried to analyze the variables of "self-other" interaction. Ruth Wylie,[11] and several others, point out that the theoretically crucial class of relationships in social interaction have been inadequately explored.

Scope of the Study: The principal aim of this study deals with the examination of three treatments designed to enhance the self-concept and thus the achievement levels of junior high school students. The second major objective is concerned primarily with a longitudinal analysis of relationships between a student's perceptions of the academic evaluations of his ability which his parents and others hold, his self-concept of academic ability, and his achievement in academic subjects. In addition, other social-psychological variables, such as the importance students attach to achieving higher grades than other students, will be investigated over time to gain a greater understanding of their theoretical and empirical relevancy for the area of self-concept of school ability and school achievement.

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[7] See M. M. Helper, "Parental Evaluations of Children and Children's Self-Evaluations." Journal of Abnormal Social Psychology, LVI (1958), 190-194; M. Manis, "Personal Adjustment, Assumed Similarity to Parents and Inferred Parental Evaluations of the Self," Journal of Consulting Psychology, XXII (1958), 481-485; Frank Miyamoto and Stanford Dornbusch, "A Test of the Inter-Actionist Hypothesis of Self-Conception," American Journal of Sociology, LXI (1956), 399-403; Richard Videbeck, "Self-Concept and the Reaction of Others," Sociometry, XXIII (1960), 351-360.

[8] Helper, op. cit., pp. 190-194.

[9] Charles H. Cooley. Social Organization (New York: Charles Scribners Sons, 1909).

[10] Mead, op. cit.

[11] Ruth C. Wylie. The Self-Concept (Lincoln, Nebraska: University of Nebraska Press, 1961), p. 136.

Objectives and Hypotheses: Experimental Studies

The particular intent of this research project is an exploration of methods for developing talent among junior high school students through the enhancement of the student's self-concept of his academic ability. Thus, three separately conducted experiments focus upon the hypothesis that levels of school learning may be modified by systematic changes in the self-concept of the learner through interaction with others.

The preliminary findings of Cooperative Research Project #845[12] provided 1) a general self-concept of ability scale and specific self-concept of ability scales in four subject areas; 2) evidence that there is a significant difference between the self-concepts of high achievers and low achievers who have similar levels of intelligence as measured by standardized tests; and 3) a significant association between the self-concept the individual held of himself and the perceptions which he felt four others (father, mother, best friend and teacher) had of him.

---

[12] Brookover, et. al. (1962), op. cit.

There is little evidence to date, however, which demonstrates that changes in the evaluation and expectations held by significant others will result in a change in self-concept for the individual which will, in turn, result in a change in academic achievement. The purpose of the three experiments is to explore the effects of three different treatments designed to modify self-concepts of ability of three samples of low achieving junior high school students and thus enhance the academic achievement of these students.

The strategy was to enhance the self-evaluations and expectations of students by: 1) enhancing the academic expectations and evaluations parents hold of their children's ability; 2) introducing an "expert" who communicated directly to students enhancing information about their academic ability; and 3) creating a new "significant other" in the form of a counselor whose high academic expectations and evaluations might be internalized by the students.

The importance of the study is four-fold: 1) it specifies a social-psychological theory, symbolic interactionism, which is pertinent to a greater understanding of the academic performance of students; 2) it tests the basic hypothesis of symbolic interaction theory that changes in self-concept will relate to changes in behavior; 3) it offers some bases for determining which of three methods may be effective in enhancing self-concept of school ability; and 4) results of the study may point to some needed changes in educational theory and practice.

Major Hypotheses, Experimental Studies

Since the major objective of this study is to explore ways of extending the limits of achievement which may be set by the students' self-concepts of ability, three different methods of treatment were undertaken in three different experiments with samples of low achieving (below the mean G.P.A.) ninth grade students in an effort to enhance their self-concepts of ability and thereby result in raised levels of achievement.

The methods of treatment, which are described in Chapters II, III, IV, and V, were designed in order that the following major research hypotheses could be tested:

1. Systematically developed increases in perceived evaluations and expectations which parents (as significant others) hold of low achieving students will result in parallel changes in these students' self-concepts of ability.

2. Systematically developed increases in self-concepts of ability (as induced under hypothesis #1) will result in increases in the students' level of school achievement.

3. The self-concepts of low achieving students can be enhanced by having a person who is presented as an expert give these students evidence that they are more able than they perceive themselves to be.

4. Increases in the self-concepts of ability (as induced in hypothesis #3) will result in increases in the level of school achievement.

5. The self-concepts of low achieving students can be enhanced by a counselor who systematically provides a set of high evaluations.

6. The increases in self-concept of ability (as induced in hypothesis #5) will result in increases in level of school achievement.

Hypotheses #3 and #5 assume that "experts" and counselors can become significant others and that when they do the higher evaluations of ability which they provide students will result in enhanced self-concepts.

Objectives and Hypotheses: Longitudinal Study

The principal aim of the longitudinal study is to clarify the theoretical propositions that: one, self-concepts of ability derive primarily from the perceived evaluations of significant others; and two, self-concept of ability is a "functionally limiting factor" in achievement. It is postulated that a student's perception of the evaluations of his academic ability by his significant others result in a self-concept of academic ability; and a certain condition of self-concept of academic ability is necessary in order for a student to organize his behavior to achieve in academic tasks.

As implied above, the relationship of perceived evaluations of significant others to self-concept is postulated to be that of a necessary and sufficient condition, i.e., if the student's significant others change in their evaluations of the student's ability, this change will be reflected in the student's self-evaluations of ability. A change in the former will be reflected in a change in the later.

The relationship of self-concept of ability to achievement, on the other hand, is postulated to be that of a necessary but not a sufficient condition for the occurrence of a particular academic performance. For example, for a student to organize to achieve in algebra he must believe there is some chance of his being able to succeed. On the other hand, if a student believes he is able to achieve in algebra, but that the significant people in his life do not desire that he learn mathematics, or that he has no self desire to achieve as such, the student will not purposively learn algebra. The pertinence of self-concept of academic ability as a factor to be concerned with, is that a large proportion of students, it is assumed, evaluate their academic ability so as to set limits upon their performance level.

Major Hypotheses: Perceived Evaluations, Self-Concept and Achievement

As previously stated, self-concept of academic ability is viewed as being primarily dependent upon the perceptions ~~of~~ significant others. While academic performance is dependent upon several variables in addition to self-concept, (e.g. other self-concepts, skills, role demands, previous learning, aspirations, affective components, etc.), this does not preclude the tendency of changes in self-concept of ability to be associated with changes in achievement. This is because self-concept of academic ability is related to other self-reference statements, such as, self-expectation of the grades one ought achieve, and so forth. It is the total self-structure (according to the theory) which organizes behavior. Of theoretical relevance, therefore, are the following derived hypotheses:

H_1: The students' perception of the evaluations of academic ability held by significant others is associated with their self-concept of ability at each grade level.

H_2: Changes over time in the perceived evaluations of significant others are associated with changes over time in self-concept of ability.

H_3: The students' self-concept of ability is associated with their academic achievement at each grade level.

H_4: Changes over time in self-concept of academic ability are associated with changes over time in academic achievement.

Hypotheses #1 and #3 above have been confirmed at various grade levels in previous research by the authors and other investigators (See page 20). Hypotheses two and four represent a unique contribution because of their dependence for test upon longitudinal data.

If self-concept of academic ability can be assumed to be dependent upon perceptions of significant others and if it can also be assumed that parents, friends, and teachers include nearly all of the academic significant other categories for students, it can be reasoned that the relationship between the total perceived evaluations of parents, teachers and friends and self-concept of ability will be very high.

On the other hand, academic achievement is dependent upon several disparate sources (self-concepts, skills, abilities, previous learning, norms, affective components, etc.). Therefore:

H_5: The relationship between the perceived evaluations of significant others and self-concept is greater than the relationship between "self-concept of ability and achievement."

Intervening Variable[13]

Implicit in the above is the proposition that self-concept of academic ability intervenes between future performance and the past perceived evaluations of others. Self-concept of ability is directly related to achievement by being a part of the total self-structure while perceived evaluations of others are related to academic performance only through their influence upon the self-concepts of students. This is justification for hypothesizing that:

H_6: The relationship between "self-concept and achievement" is greater than the relationship between "perceived evaluations and achievement."

Further substantiation for the view that self-concept of ability intervenes between the perception of others and achievement can be attained by testing the inferences that:

H_7: The association of changes in the "perceived evaluations of others with changes in self-concept" is greater than is the association of changes in the "perceived evaluations of others with changes in achievement."

and:

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[13] Intervening variable is used in the sense of . . . "any intervening construct with a maximum amount of operational validity, or direct empirical reference," as in Melvin H. Marx "Intervening Variable or Hypothetical Construct," The Psychological Review, LVIII (1951), 236. Self-concept of ability, as used here, should not be confused with phenomenological definitions of self. Self-concept of ability refers to those definitions a student holds of his ability to achieve in academic tasks as compared with others (See Chapter II for a further clarification).

H_8: The association of changes in the self-concept of ability with changes in achievement is greater than is the association of changes in the perceived evaluations of others with changes in achievement.

Significant Others

Information pertaining to the reciprocal-role relationships students have with significant others was also sought for its theoretical relevancy. A reciprocal-role relationship exists when an individual ". . .enacts a social role which is defined with reference to another (reciprocal) role, as in the relationship between patient and doctor. . .,"[14] or of father and son. Thus, as Kelman notes, ". . .if an individual finds a particular relationship satisfying, he will tend to behave in such a way as to meet the expectations of the other."[15] Not to behave in terms of the required expectations for maintenance is, by definition, to jeopardize that relationship, (it is assumed that every reciprocal relationship has such conditions).

The theoretical relevancy of determining the reciprocal role relationships of students also rests upon the assumption that a student in organizing his behavior takes others who are concerned with him into account.

When another is perceived by a student as being both very important and as being very concerned about how he (the student) behaves in his role as student, a reciprocal role relationship is said to exist. Under such a condition it is assumed that the significant other has major influence as a source of the academic evaluations the student makes of himself. Therefore, preliminary studies accompanying the longitudinal analysis are reported concerning who the student perceives to be important to him, and the reciprocal, who he (as a student) perceives himself to be important to. Questions of concern, at this stage, are: Is there any indication that parents are becoming less and less the academic significant others of their children? Is there any indication that peers are becoming more influential?

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[14] Herbert C. Kelman, "Processes of Opinion Change," *Public Opinion Quarterly*, XXV (1961), 104.

[15] *Ibid.*

Research Questions

Patterns of Relationship and Change

In addition to testing hypotheses developed in the above theoretical frame-work, further clarification of the patterns of relationship, at given times and changes among variables over varying times were sought by a series of empirical questions concerning: (1) the year-by-year stability of relationships among relevant variables over the longitudinal period; (2) the association of patterns of change in self-concept and other relevant variables over a four-year period to each other; and (3) the stability of each major variable among the longitudinal student body as measured at each grade level.

Examples of these questions are:

1. Patterns: The Stability of Relationships:

What is the relationship of self-concept of ability to other relevant variables (academic achievement, the evaluations of significant others, and self-attitudes toward achievement) in each year of the longitudinal study? How constant are these associations? What trends or patterns, if any, are discernible? Is there a difference in the stability of these relationships under varying conditions of student achievement level, school climate (i.e. differences in junior and senior high schools attended), subject matter area, or socio-economic class?

2. Patterns: The Association of Changes During the Four-Year Period

Are changes in self-concept of ability associated with changes in achievement level, the evaluations of others, and self-attitudes toward the importance of achievement? Are changes in the evaluations of others associated with changes in achievement level?

3. Patterns: Stability of Major Variables

Do students as a group tend to maintain the same level of self-concept of ability at each grade level? What patterns, if any, are apparent in the mean perceptions of parents, friends, and teachers over the longitudinal period?

Related Research

Theoretical orientations in the area of self-concept have many variations, and are to be found in various academic disciplines. The orientation of this study has its basis in the work of George Herbert Mead.[16] Since the publication of Mead's original works, the theory has become increasingly detailed.[17] Recently the theory was stated in a concise form by John W. Kinch.[18] His conceptualization briefly states the major propositions of contemporary self-concept theory.

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[16] Mead, op. cit.

Previous research has established the relationship between self-concept and behavior,[19] and between self-concept and perceived evaluations by significant others.[20] Specifically, recent research has indicated that there is a relationship between self-concept of ability in school and academic performance as well as between self-concept of ability and perceived evaluations by others.[21] In addition, it has been demonstrated that there is a relationship between perceived evaluations by significant others and academic performance.[22]

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[17] Arnold M. Rose, "A Systematic Summary of Symbolic Interaction Theory," in Rose (ed.) Human Behavior and Social Processes (Boston: Houghton-Mifflin, 1962), pp. 3-19.

[18] John W. Kinch, op. cit., p. 481.

[19] See Thomas S. McPartland, John H. Cumming, and Wynona Garretson, "Self-Conception and Ward Behavior in Two Psychiatric Hospitals," Sociometry, XXIV (1961), 11-124, and Walter C. Reckless, Simion Dinitz, and Ellen Murray, "Self-Concept as an Insulator Against Delinquency," American Sociological Review, XXI (1956), 744-746.

[20] Frank Miyamoto and Stanford Dornbush, op. cit., pp. 399-403; Leo G. Reeder, G. A. Donahue, A. Biblarg, "Conception of Self and Others," American Journal of Sociology, LXVI (1960), 153; Ruth C. Wylie, op. cit.

[21] Wilbur B. Brookover, Shailer Thomas, and Ann Patterson, "Self-Concept of Ability and School Achievement," Sociology of Education, XXXVII (1964), 271-278.

[22] Wilbur B. Brookover, et. al., (1962), op. cit., p. 53.

Probably the most comprehensive and rigorous attempt to evaluate the research in the area of self-concept has been completed by Ruth Wiley.[23] As a review of her study indicated, the manner and function of change in self-concept is characterized by diverse interpretations, but that there can be change in the self-concept of the individual is widely accepted.

In studying the perceived responses of parents toward their children, Rosenberg[24] concluded that children who report punitive responses on the part of their parents tend to hold lower self-esteem than those who report only supportive response by their parents; but children who report indifferent responses held lower self-esteem than either of the other two groups. Thus, with reference to parents as significant others, it would seem that any attention results in the individual holding higher self-esteem than does indifference on the part of the parents.

Backman, Secord and Pierce[25] found that there was greater resistance to change in self-definition when the definitions were perceived to be supported by the concensus of a number of significant others, and that when the concensus of significant others on a self-definition was low there was less resistance to change. Such studies as these would seem to indicate that changes in the self-concept of the individual are a function of social experience and interaction with significant others.

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[23] Ruth C. Wylie, op. cit.

[24] Morris Rosenberg, "Parental Interest and Children's Self-Conception," Sociometry, XXVI (1963), 35-49.

[25] Carl W. Backman, Paul F. Secord and Jerry R. Pierce, "Resistance to Change in the Self-Concept as a Function of Concensus among Significant Others," Sociometry, XXVI (1963), 102-111.

Both Videbeck[26] and Maehr[27] have demonstrated that short-term changes in self-concept can be induced by an expert making evaluations of subjects while students are performing a task. However, these researchers did not investigate the influence of such changes in self-concept on performance. In addition to being a short-term experiment (about two hours), evaluations were made while the subjects were actively engaged in performing the task being evaluated. Maehr's results revealed significant changes in self-concept under both conditions of positive and negative evaluations, while Videbeck's study revealed a significant change in self-concept only under the disapproval condition.

Benjamin[28] concluded that there is a relationship between self-concept and behavior, that self-concept can be changed through false ranking, and that one can predict the direction of change in performance on a second test. Using a group of 48 high school students, he obtained their perceived rank on intelligence within their class. The students were then given an intelligence test and were given false ranking of their performance on the test. Inspection of the second rankings of the students then made it possible to predict the direction of change of performance on the second intelligence test. While Benjamin's study has some limitations due to an incomplete description of methodology and lack of a control group, it is pertinent to report here because of the implication that it is possible to alter one's perception of self as a performer, and thus to predict the direction of change in performance relative to the concept the individual holds of himself.

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[26] Richard Videbeck, op. cit.

[27] Martin Maehr, Josef Mensing, and Samuel Nafzger, "Concept of Self and the Reaction of Others," Sociometry, XXV (1962), 353-357.

[28] James Benjamin, "Changes in Performance in Relation to Influence Upon Self-Conceptualization," Journal of Abnormal and Social Psychology, XXXXV (1950), 473-480.

Several studies have addressed themselves to the investigation of the effects of failure on self-concept. Working within a cognitive dissonance framework, Harvey[29] showed college sophomores low ratings of themselves which were supposedly made by others, but were actually fictitious. His findings indicated that the more negative evaluations resulted either in a devaluation of the source of the ratings, a distortion of the ratings when they were supposedly made by a friend, or a tendency for subjects to dissociate themselves from the low evaluations.

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[29] O. J. Harvey, Harold H. Kelley and Martin M. Shapiro, "Reactions to Unfavorable Evaluations of the Self Made by Other Persons," Journal of Personality, XXV (1957), 398-411.

Another such study was reported by Levanway[30] in which 30 college students were told that their performance on a memory task indicated serious emotional conflict. The reaction of the subjects to this threat was measured in terms of their responses to self, to defined others, and to pictures of persons. Contrary to other findings in this area, Levanway found that the subjects reacted more favorably on these three measures after the threat than they had before the threat. Although the results of this study are noteworthy because they contradict other findings, it is difficult to assess the results accurately. No control group was used and one is left to speculate about what might happen to subjects who were given a report of positive emotional balance. The author did report, however, that this threat did succeed in upsetting several of the students, and that despite a session designed to relieve anxiety about the failure situation, several of the subjects signed up for a counseling session.

In an effort to discover whether a person's evaluation of self would be different depending on whether he failed in private, as contrasted to the failure being pointed out by another person, Stotland and Zander[31] studied 126 college males and discovered the following: (1) subjects with high evaluations of their performance rated their ability in the task lower when they were observed by the experimenter; (2) subjects who made low evaluations of their performance did not rate their abilities differently under different experimental conditions; (3) the experimental effects were limited to those abilities which were clearly related to the task at hand; and (4) when the total population was studied, there were no consistent consequences from private or public failure.

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[30] Russell W. Levanway, "The Effect of Stress of Expressed Attitudes Toward Self and Others," Journal of Abnormal and Social Psychology, L (1955), 225-226.

Consistent with these findings, Stotland, Thorley, Thomas, Cohen, and Zander[32] found, as expected, that self-esteem was too enduring a characteristic to be seriously affected by a single experimental failure. They also found that the extent of poor evaluations following failure on a task was related to the influence of membership groups on the person and the relevance of the task to the goals of the group.

The study of the effects of devaluations by group members on task performance was undertaken by Dittes,[33] where students were given false ratings supposedly made by other members of experimental groups. The subjects were then tested on seeking closure on conceptual tasks, and it was discovered that low evaluations by group members resulted in greater impulsiveness toward closure. The author concluded that obtaining of closure through a structuring of ambiguous stimuli is a means of raising self-esteem. Subjects who received low evaluations gave meaning to an incoherent prose passage and claimed to recognize earlier a disguised phrase as it was repeated over a tape recorder. The conclusion's limitation lies in the fact that no test was performed to determine whether obtaining closure on these tasks did raise self-esteem. The results were true only of those subjects who had low self-esteem. The devaluations did not seem to affect those subjects with high self-esteem.

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[31] E. Stotland and Alvin Zander, "Effects of Public and Private Failure on Self-Evaluation," Journal of Abnormal and Social Psychology, LVI (1958), 223-229.

[32] E. Stotland, Stanley Thorley, Edwin Thomas, Edwin Cohen and Alvin Zander, "The Effects of Group Expectations and Self-Esteem Upon Self-Evaluation," Journal of Abnormal and Social Psychology, LVIII (1957), 55-63.

It is important to note that the research literature indicates that change in self-concept as a response to failure is influenced not by one, but by several variables, although the nature of the associations are not usually specified beyond indicating correlations. In a group setting, changes in self-concept were found to be related to the subject's attraction to the group,[34] the subject's perception of the norms of the group,[35] and the perceived importance of the issue at hand.[36] In addition, it appears that subjects who hold high self-concepts are not as susceptible to persuasion (with reference to the concept of self) as persons with low self-concepts.[37] Solley and Stagner found that subjects with low self-concepts were slower in solution time of anagrams, and made more self-references in the face of failure.[38]

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[33] James E. Dittes, "Effect of Changes in Self-Esteem Upon Impulsiveness and Deliberation in Making Judgments," Journal of Abnormal and Social Psychology, LVIII (1959), 348-356.

In a study of the effects of group counseling on underachieving junior high school boys who had demonstrated acting-out behavior, Cohen[39] concluded that as a result of counseling, the experimental group improved in self-concept and felt more adequate with regard to general intelligence. The type of self-concept instrument was not described in this study, however, but the experimental group was able to score higher on the general information section of the WISC intelligence test. The experimental subjects, however, became more non-conforming and more delinquency prone on the Kvaraceus Delinquency Proneness Scale than did the control subjects. Such results would seem to indicate that the group counseling had an effect on the self-concept with reference to ability to achieve, but that it did not have as positive an effect on the acting-out behavior.

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[34] Leon Festinger, Jane Torrey, and B. Willerman, "Self-Evaluation as a Function of Attraction to the Group," Human Relations, VII (1954), 161-174.

[35] Glen Rasmussen and Alvin Zander, "Group Membership and Self-Evaluation," Human Relations, VII (1954), 239-251.

[36] Ibid.

[37] I. L. Janis, "Anxiety Indices Related to Susceptibility to Persuasion," Journal of Abnormal and Social Psychology, LI (1955), 663-667.

[38] Charles M. Solley and Ross Stagner, "Effects of Magnitude of Temporal Barriers, Type of Goal, and Perception of Self," Journal of Experimental Psychology (1956), 62-70.

[39] Benjamin Cohen, "The Effects of Group Counseling on School Adjustment of Underachieving Junior High School Boys Who Demonstrate Acting-Out Behavior," Cooperative Research Project No. D 040, U.S. Office of Education (Worcester County, N.Y.: Board of Cooperative Educational Services, 1963).

In another study dealing with the effects of counseling on school achievement, Schmidt and Winborn[40] found that a control group of college freshmen did significantly better than an experimental group on grade-point average after the experimental group was counseled. They concluded that short-term counseling tended to have a negative effect on the academic achievement of underachieving college freshmen.

Significant changes in the control as well as the experimental group were reported by Mertens.[41] In this study, the experimental group was exposed to several mental hygiene films, and although there was significantly greater improvement of the experimental group over the gains of the control group on one of a variety of self-concept instruments taken primarily from personality tests, the significant improvement of the control group points out the necessity for a research design which utilizes adequate control groups if conclusions are to be reached about the effectiveness of any treatment on self-concept.

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[40] Louis G. Schmidt and Bob Winborn, "The Effectiveness of Short-Term Group Counseling Upon the Academic Achievement of Potentially Superior But Underachieving College Freshmen," Journal of Educational Research, LV (1962), 169-173.

[41] Marjorie S. Mertens, "The Effects of Mental Hygiene Films on Self-Regarding Attitudes," (U.S.N. Special Development Center, Technical Report SDC 269-7-33, 1951).

Although many pieces of research dealing with the effects of counseling on students have included a self-concept variable of some type, a great number of them suffer from the lack of an adequate research design. Much of the research has neglected the use of a control group and random assignment to the counseling situation. Bosdell,[42] in a review of the research dealing with the effects of counseling on the achievement of underachieving adolescents, found that a majority of the studies did not reveal significant changes on an achievement variable after group counseling. He also reviewed the effects of individual counseling on academic achievement, and found that the overall trend in this area is a little more positive. Most of the studies in this area which used control groups indicated that there was significant improvement of the experimental group over the control group. Results of research in this area, however, have not always been consistent.[43]

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[42] Betty J. Bosdell, "Evaluation of Counseling Treatments with Underachieving High School Students," Cooperative Research Project #1263, U.S. Office of Education, (Grand Forks: University of North Dakota).

[43] Schmidt and Winborn, op. cit.

Bosdell was successful in raising academic achievement through two means: individual counseling and study skills instruction.[44]

As far as could be ascertained, no studies have been reported to date which have attempted to enhance the self-concept of the individual with reference to school achievement through working with "significant others." A research project now underway, and directed by Dr. Walter Reckless at The Ohio State University, deals with teachers, and is attempting to isolate potential delinquents in an effort to prevent them from becoming delinquent. None of the studies reported in the literature have attempted to work with parents as significant others in an effort to raise self-concept and thus achievement in school.

The use of the expert approach has met with some success in the changing of self-concept, although only one such study has made an effort to trace the effects of such changes on any form of performance.[45] The great bulk of research in this area has concerned itself with short-term experiments, and none has been concerned with treatment or changes in the self-concept for more than a very limited period of time.

Attempts of counselors to induce changes in self-concept and school achievement have met with mixed success. The literature to date has offered no conclusive evidence as to the effect of the counselor on the self-concept and school achievement of the individual.

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[44] Bosdell, op. cit.
[45] Benjamin, op. cit.

There is substantial theoretical rationale for inducing changes in the self-concept and the performance of the individual through the modification of the expectations of significant others. The problem of this study is to attempt to change the self-concept of the individual's school ability, and to discover whether such changes in self-concept reflect themselves in the academic achievement of the individual.

CHAPTER II

THE RESEARCH METHODOLOGY*

This chapter is divided into three main sections and a summary. The first and second sections cover the population and samples, sites of research, and procedures of the longitudinal and experimental studies. The third section deals with the major variables under analysis in the longitudinal and experimental investigations.

Longitudinal Study

The presentation of the longitudinal analysis generally follows the form of the theoretical development in Chapter I:

(1) An examination of the relationship between perceived evaluations of others and self-concept.

(2) A study of the relationship between self-concept and achievement.

(3) A focus upon self-concept as an intervening factor.

(4) An analysis of the importance students attach to achieving higher grades than other students in relation to self-concept of ability and achievement.

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*The procedures of analysis used in each experiment and in the longitudinal study are described in greater detail in Chapters III, IV, V, and VI.

(5) And finally, a presentation of preliminary findings concerning patterns over time in the perceived evaluations of others, self-concept of ability and significant others.

Each relationship is viewed in terms of associations between variables at each grade level and then in terms of change of a variable over different time periods in association with changes in other variables.

General Procedures, Longitudinal Analysis

The major variables analyzed stress student perception of self and others. They are: (1) student perceptions of the evaluations of their academic ability held by parents, teachers and friends; (2) self-concept of academic ability; (3) academic achievement (grade-point average); and (4) importance of achieving higher grades than other students. Also included for analysis were socio-economic status, school attended, memory of past performance, past achievement, and academic significant others. (See appendices A through F)

Stability of Variables - As an index of the stability of student response on each of major instruments, means and standard deviations were reported for each grade level. Furthermore, the proportion of students who indicated various categories of significant others at each grade level were also presented. In addition, in the Appendix correlations are reported between the variables from year to year. Since, however, the data on significant others includes only 8th, 9th, and 10th grades (11th and 12th grade data are being gathered in a follow-up study)[1] there will be no statistical analysis for patterns of trends. A more complete analysis, which includes the 11th and 12th grades, will be reported at a later date.[2]

Analysis of Stability of Relationships - Analysis of the stability of relationships was conducted through a correlational analysis. The relevant variables were analyzed to assess the magnitude of the interrelationships at each grade level. Correlations were also examined to determine if there were patterns in these associations and if trends were discernible. Tests were made (depending upon related or unrelated data) to determine if there were significant differences in correlations. In addition, the correlations were plotted year by year in order to gain a visual comprehension of patterns or lack of pattern. The appropriate statistics for particular hypotheses will be presented in Chapter VI.

Analysis of Changes - Chi-square analysis was used to determine if changes in a subject's response on one variable was associated with changes in other variables, over varying periods of time. Subjects of the longitudinal population were divided into categories of change on each of the major variables. Categories of change will be specified in Chapter VI, under "Procedures."

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[1] Wilbur B. Brookover, Don E. Hamachek, and Edsel L. Erickson, "Relationship of Self-Concept to Achievement," Cooperative Research Project #2831 (In Process). (East Lansing: Michigan State University, Bureau of Educational Research).

[2] Ibid.

Site and Description, Longitudinal Population

There were 463 subjects, including 204 males and 259 females in the longitudinal population. This population included all of the students in an urban school system who met the following criteria:

1) Caucasian
2) Complete school data from the fourth through tenth grades was available (reading scores, intelligence test scores, and grades in mathematics, English, social studies and science).
3) Complete questionnaire data was available from the seventh through tenth grades.
4) All subjects were promoted regularly from grades four through ten. Students who repeated grades or who withdrew and re-entered were excluded.
5) All were participants in the regular school program. All who were or had participated in special education programs of any type were excluded.
6) All subjects who participated in other phases of this investigation were also excluded from the longitudinal study, e.g. participated in experiments to enhance self-concept of ability.

Although there were data available on most students in the "Oldtown" junior high schools, some students were not included in this study. Most eliminations were made for two reasons; racial identification and incomplete or inadequate data. Approximately 100 Negro students were not included in the analysis because it was expected that race would be a strong factor influencing self-concept and related variables. Analysis of the data for these students revealed that the expectations for Negro students were confirmed.[1]

Experimental Studies

Three experimental research designs were employed to evaluate three different methods of self-concept enhancement and the resulting influence on academic achievement. The availability of relevant data for all students in "Oldtown" during their years in seventh and eighth grades made it possible to design each of the three experiments so as to have randomly assigned control and treatment groups. Furthermore a "placebo" group could be used in two of the experimental situations in order to control for the "Hawthorne" effect. Inasmuch as the Westinghouse studies revealed that mere participation in a research project was sufficient to change performance, it was deemed essential to control for such an effect in two of the experiments. It was not practical to establish such a placebo group in the third experiment, the Counselor group. This will be discussed later in this Chapter and in Chapter V.

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[1] Richard J. Morse, "Self-Concept of Ability, Significant Others and School Achievement of Eighth-Grade Students: A Comparative Investigation of Negro and Caucasian Students" (Unpublished M.A. Thesis, Michigan State University, 1963).

In order to evaluate any changes in junior high school students with reference to self-concept, it was necessary to have access to a suitable and reliable instrument for measuring the academic self-concept of the student. Such an instrument was developed under a grant from the U.S. Office of Education, Cooperative Research Project #845,[1] and was utilized in the present study. Success in developing a self-concept scale which could be administered in a group setting, and the cooperation of the administration of the "Oldtown" school system, made it possible to have available previous self-concept data from all available students as they progressed through junior-high school, as well as data pertinent to school achievement, intelligence test scores, and other relevant personal data.

General Procedures, Experimental Designs

This research uses an experimental design in which two or more initially equivalent groups are selected. The groups are exposed to different experimental treatments, final performance is measured, and the achievement of the different groups is compared.

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[1] Brookover, Paterson, Thomas. op. cit.; see also Appendix "A."

The overt manipulation of experimental variables is an appropriate approach to the understanding and control of behavior. If significant variables can be identified in the learning experience of students, especially students who have performed poorly, and if these variables can be manipulated in such a manner that poor performance is improved, the results would have theoretical importance for the understanding of the learning process and practical significance in the design of the educational system.

In such a research design a crucial point is an adequate control group. The mere fact of gain on a variable is inadequate to demonstrate the effectiveness of a treatment. First there is the possibility of simple practice effect. Merely taking a test the second time may enable one to do better on it. Also, whenever the selection for some experimental treatment depends on the initiative of the student in applying and volunteering for treatment, or whenever it depends on judgments by a teacher that a student is likely to respond or benefit from a treatment, the experimental sample will be biased.

The ideal design is one in which groups are randomly determined in advance of a treatment. This insures that there are no systematic biases differentiating one group from another and that only chance differences remain to cloud the effect of the experimental variable. Such random assignment of individuals is rare in educational research. This study used an experimental design, random selection of individuals, and random assignment to treatment groups.

As previously indicated the Westinghouse studies revealed that participation in a research project was sufficient to change performance. In order to control for this "Hawthorne" effect the experimental group was compared with both the placebo and control group. The placebo group was given another "treatment" designed to be irrelevant to the purpose of the study.

Experiment "A" (also referred to as the "Parental Experiment") is a study of the effects of working with parents in order to influence students. This experiment was designed to determine if changes in expectations which parents hold of their children result in changes in the self-concept of ability of the child, and to determine if such changes are manifested in changes in school achievement. Three groups of low achieving students were randomly selected. The parents of two of these groups, the experimental and the placebo, were invited to participate in a research project dealing with some phase of adolescence. The parents of the control group were not contacted. Since this experiment depended on the cooperation of the parents a few changes in the random samples were necessary.

Experiment "B" (also referred to as the "Expert Experiment") is a study of the effects of formal presentations by a person defined as an "expert" on low-achieving students. In order to test the hypotheses that the self-concept of low achieving students can be raised by a person believed to be an expert, and that such changes in self-concept will be reflected in changes in academic performance, three groups of low achieving students were randomly selected. These groups were: an experimental group, a placebo group (the experimenter or "expert" met with both of these groups), and a control group which was not contacted during the experiment.

Experiment "C" (also referred to as the "Counselor Experiment") is an investigation of the effects of counseling on low-achieving students. This experiment was designed to determine whether the self-concept of low-achieving students who perceive that their parents hold low expectations of them can be raised by a counselor who provides a set of high expectations and whether such changes are reflected in achievement. Two groups of students were randomly selected; an experimental group and a control group. Because of the nature of the relationship between the counselor and the student it was not possible or practical to use a placebo group. Since the counselor served as the official school counselor, the use of a placebo group would deprive this group of its normal counseling during this period. Such deprivation might not be to the benefit of the students involved.

Advantages of Experimental Design - The use of the research design outlined above will enable the evaluation of the effects of a treatment on random samples of low-achieving students. In addition the use of an adequate control group and placebo group will control for the effects of: 1) history, 2) maturation, 3) testing, 4) instrumentation, 5) statistical regression, 6) biases in selection, 7) mortality in groups, and 8) participation in an experiment.[1]

Treatment Objectives of Three Experiments

Each of the experiments utilized a different method and took place in separate schools. Each experiment, however, proceeded in accord with a general outline of goals. The goals of the treatments were seen as four-fold: first, a more positive self-conception and an acceptance of one's abilities on the part of low-achieving students. Second, a recognition of academic weaknesses, but also a recognition that these weaknesses are not fixed and that they can be overcome. Third, a feeling of responsibility in attaining higher achievement. Fourth, an improvement of school achievement as manifested in academic grades.

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[1] See Donald T. Campbell and Julian C. Stanley, "Experimental and Quasi-Experimental Designs for Research on Teaching," in Gage (ed.), Handbook of Research on Teaching (Chicago: Rand McNally and Co., 1963) for an elaboration of the necessity of an adequate research design, and the effects controlled by different types of designs.

Major Ideas Stressed In Experimental Groups - Besides a recognition of similar goals, each experiment focused on a similar content of communication. The primary idea communicated in each experimental group stressed that the limits of ability, though affected by innate and other factors, are rarely attained in one's performance. In addition, the students were told that too often one speaks of "ability" as if it were a fixed, unchangeable attribute which determines one's performance in school. Besides these wide limits of potential, there are several other important factors which influence one's performance. Such factors as how one feels about a subject, interest in it, or whether one defines a subject as an appropriate area for goal achievement, are not constant factors, but rather they are related to one's social milieu and self perceptions. All three experimental treatments involved repeated assurances on this point.

The idea of the importance of achievement was also stressed in each treatment group. It was pointed out that high achievement in school is not incompatible with other kinds of behavior, and that it is possible to perform well in the academic role as well as some other aspects of the student role. It was also stressed that recognition is given to achievement and that many people are concerned about how well students do in school.

In order to emphasize further the importance of achieving higher grades, individuals thought to be models of achievement were cited to the experimental groups. Rewards, both tangible and intangible, were cited as incentives to good achievement. Experiment "C," using counseling, actually presented in the subjects models in person in several vocational categories in order to indicate that success or good performance is not confined to a single area.

Finally, it was stressed that there is much wider concern about achievement than is often realized by teenagers. It was pointed out that there is a wide variety of persons concerned with success in school - such as, parents, friends, and teachers. The fact that the experimenters were meeting with groups of students or parents was used as evidence to show that the experimenters, as representatives of a university, were concerned with improving achievement. In addition the possession of a grant from the government was offered as further proof that there is a concern on a national level with adolescent performance.

The above ideas constituted the main points stressed in each of the three experiments. Though there were variations on these themes, each of the three experiments used this general orientation as the basic context of the presentation. The variations among these themes may be seen in the descriptions of the individual experiments which follow in Chapters III, IV, and V.

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MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963

Pre-Treatment Analysis

Comparison of random samples on each experiment was done to insure that the groups were equivalent.

The Expert Experiment - After selection by random sampling the three groups of 35 low-achieving students in the expert experiment were compared on five variables: grade-point average for each of two semesters of eighth grade; intelligence test scores; self-concept of ability; perceived evaluations by parents; socio-economic status. One-way analysis of variance was used. None of the F ratios were significant at the .05 level on any of these variables (see Table 2.1).

The Counseling Experiment - Two groups of 30 low-achieving students in the counseling experiment were compared by "t" tests on the same six variables. There was no "t" value significant at the .05 level on a two-tailed test (see Table 2.1).

The Parent Experiment - One-way analysis of variance indicated no differences in means of the three groups of 49 low-achieving students in the parent experiment on five of the six variables. They were significantly different at the .05 level on self-concept of ability. The mean score of the experimental group fell between the control and placebo groups.

Table 2.1

PRE-TREATMENT MEANS AND COMPARISON OF MEANS OF RANDOM SAMPLES IN THREE EXPERIMENTS

Experiment	Self-Concept	Social Class	I.Q.	Perceived Parental Evaluation	8th Jan GPA	8th June GPA
The Expert Experiment						
Experimental Group N=35	24.60	29.49	98.94	16.47	1.39	1.33
Placebo Group N=35	23.86	32.00	98.48	16.64	1.32	1.29
Control Group N=35	23.91	33.49	95.03	16.65	1.31	1.36
F=	.40(NS)	.423(NS)	1.16(NS)	.03(NS)	.33(NS)	.31(NS)
F.05 (2,100) = 3.09	Sex:	x^2 = .99(NS)				
The Counseling Experiment						
Experimental Group N=30	24.37	34.87	97.55	16.20	1.65	1.77
Control Group N=30	24.46	30.30	101.37	15.90	1.68	1.73
t=	.14(NS)	.89(NS)	1.31(NS)	.50(NS)	.22(NS)	.40(NS)
t.05 = 2.00	Sex:	x^2 = 2.40(NS)				
The Parents Experiment						
Experimental Group N=49	25.33	38.08	101.67	17.06	1.44	1.51
Placebo Group N=49	26.16	35.53	103.02	17.84	1.51	1.56
Control Group N=49	24.31	33.24	99.10	16.92	1.49	1.46
F=	3.24(sig)	.78(NS)	1.37(NS)	1.17(NS)	.50(NS)	.94(NS)
F.05 (2,125) = 3.07	Sex:	x^2 = 1.37(NS)				

There were no significant differences in the sex distribution of the groups in the three experiments (X^2 are reported in Table 6).

Since the research was not designed to evaluate statistically the different methods of treatment no comparisons were made between the different experiments. The location of each experiment in different schools would have made such analysis questionable. It seems appropriate, however, to examine the three experiments in the light of the theory on which they are based.

Pre-Test Analysis of Subjects Who Actually Participated in the Experiments - A comparison of all those subjects who actually participated in the experiments was done again when the groups were finally drawn. It was found that losses from the random samples prior to participation did not affect group distributions on the major variables (see Table 2.2).

The Expert Experiment - One-way analysis of variance was used to test the groups of students who actually participated in the experiment. There were no F ratios significant at the .05 level on any of the variables listed above (see Table 2.2).

Table 2.2

PRE-TREATMENT MEANS AND COMPARISON OF MEANS OF GROUPS IN THREE EXPERIMENTS

Experiment	Self-Concept	Social Class	I.Q.	Perceived Parental Evaluation	8th Jan GPA	8th June GPA
The Expert Experiment						
Experimental Group N=32	23.78	30.22	99.13	16.56	1.41	1.34
Placebo Group N=28	25.29	37.71	99.30	16.32	1.34	1.29
Control Group N=26	25.04	34.31	93.77	16.31	1.34	1.38
F=	1.15(NS)	1.12(NS)	2.12(NS)	.10(NS)	.29(NS)	.30(NS)
F.05 (2,60) = 3.15	Sex:	$x^2 = 2.49$(NS)				
The Counseling Experiment						
Experimental Group N=24	25.33	31.04	98.87	17.29	1.61	1.76
Control Group N=25	25.40	32.08	102.72	16.64	1.67	1.77
t=	-.08(NS)	-.20(NS)	-1.31(NS)	.91(NS)	.41(NS)	.05(NS)
t.05 = 2.00	Sex:	$x^2 = 2.49$(NS)				
The Parent Experiment						
Experimental Group N=19	25.58	49.63	102.89	17.74	1.53	1.53
Placebo Group N=17	27.12	44.71	102.71	18.24	1.56	1.56
Control Group N=22	24.09	31.05	96.14	16.18	1.35	1.47
F=	3.72(sig)*	4.99(sig)*	2.60(NS)	2.40(NS)	2.36(NS)	.35(NS)
F.05 (2,60) = 3.15	Sex:	$x^2 = 1.66$(NS)				

*Significant at the .05 level

CONTINUED

Table 2.2 -- Continued

Experiment	Perceived Evaluation by Teacher	Importance of Grades
The Expert Experiment		
Experimental Group N=32	16.59	20.94
Placebo Group N=28	16.81	21.21
Control Group N=26	16.46	20.38
F=	.02(NS)	.18(NS)
The Counseling Experiment		
Experimental Group N=24	17.39	19.63
Control Group N=25	16.61	21.72
t=	1.20(NS)	1.72(NS)
t.05 = 2.00		
The Parents Experiment		
Experimental Group N=19	16.63	21.47
Placebo Group N=17	19.20	22.29
Control Group N=22	16.14	19.50
F=	4.16(sig)*	5.02(sig)*
F.05 (2,55) = 3.17		

*Significant at the .05 level.

The Counseling Experiment - To test that the groups which participated in the experiment were still not significantly different from each other, "t" tests were run on the eight variables listed above. Again, there were no "t" values significant at the .05 level (see Table 2.2).

The Parents' Experiment - Since the experiment dealing with parents of low-achieving students depended on the cooperation of the parents, some changes in the original random samples were made. Uncooperative parents in the original experimental random sample were randomly replaced with parents from the control group. As noted above, there was a significant difference in the means of the random samples in this experiment on self-concept of ability. The samples also revealed significant differences on socio-economic status, perceived evaluations by teachers, and the importance of grades (see Table 2.2).

In summary, pre-treatment analysis revealed that the random samples within each experiment were not significantly different from each other except on one of the variables tested. The one exception is the Parent Experiment on self-concept of ability. Pre-treatment analysis of the groups which actually participated in the experiments revealed that in the Expert Experiment and the Counseling Experiment there were no significant differences between the groups. In the Parent Experiment, analysis of students whose parents participated in the experiment revealed significant F ratios on self-concept of ability, importance of grades, social class, and perceived evaluation by teacher. These results indicated that in the Counseling and Expert Experiments the groups were initially equivalent. In the Parent Experiment there were significant differences to be controlled in further analysis.

Site and Description, Experimental Groups

Site - The research was conducted in the junior high schools of a midwestern city of about one hundred thousand population between the years of 1960 and 1964. The total population of the four junior high schools included in the study numbered approximately 1950. Each of the three experiments was conducted in a separate junior high school to control for treatment contamination. The fourth school was not involved in an experimental treatment. A more complete description of the research sites for each of the experimental situations is to be found in the chapter in which the specific experiment is reported.

Samples, Experiments "A," "B," and "C" - Students who met all of the data requirements specified for the longitudinal population and who were also identified as "low achievers" constituted the population from which all eight groups in the three experiments were drawn. Selection for the experiments was done independently. Mean GPA's for each of the three schools where the experiments were to be conducted were calculated.

All students who had obtained a grade-point average in four academic school subjects (mathematics, English, social studies and science) which fell below the mean grade-point-average for their particular class for both semesters of eighth grade were defined as being low-achievers. The mean grade-point-averages for the three schools are presented in Table 2.3. Students who fell into the category of low-achiever in each of the three schools were then assigned randomly to groups.

Table 2.3

MEAN GRADE-POINT AVERAGE FOR EIGHTH GRADE STUDENTS

Grade-Time	School "A"	School "B"	School "C"
8th January GPA	2.21	2.14	2.46
8th June GPA	2.19	2.10	2.50

Summary, Experimental Designs

The general design of all three experiments used a pre-post-measurement. In Experiments "A" and "B," a placebo group was utilized in addition to a control group in order to determine actual treatment affects and assess a possible "Hawthorne" effect. Thus Experiments "A" and "B" used three groups of low-achieving students, while Experiment "C" used two groups. The groups in Experiment "B" and "C" were random samples; the three groups in Experiment "A" were selected randomly, but some changes were made since the experiment depended on the cooperation of the parents.

The randomly selected groups in each experiment were analyzed to determine if there were any initial differences on the following variables: GPA for two semesters; Measured Intelligence; Socio-Economic Status; Perceived Parent's Evaluation, Perceived Teacher's Evaluation, the Importance of Achieving Higher Grades than Others; and Self-Concept of Academic Ability.

Analysis of variance of the data on the above variables in Experiment "A" indicated that the only significant difference (.05 level) among the three groups, of 49 each, was on Self-Concept of Academic Ability. Note that this comparison was made prior to contact with the parents.

Data from three groups of 35 students in Experiment "B" were also analyzed by analysis of variance. There was no F ratio significant at the .05 level on any of the variables tested.

The two groups of 30 each in Experiment "C" were compared on each variable by "t" tests. There was no "t" significant at the .05 level on a two-tailed test.

Chi-square was used to test the distribution by sex for each experiment. There were no significant differences (.05 level) from expected frequencies.

It was concluded that, except for Experiment "A" on self-concept of ability, all groups within each experiment were not significantly different from each other at the time of selection. Since the research was not designed to evaluate statistically the different methods used, no statistical comparisons were made between the different experiments.

Another comparison of all those persons who actually participated in the experiments was done at a later date. The results of this comparison will be reported in the three chapters which follow.

Major Variables

In a previous investigation of the relationship of self-concept of ability and academic achievement the following constructs and scales were developed.[1]

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[1] Brookover, et. al. (1962), op. cit., p. 14.

Self-Concept of Academic Ability

General self-concept of academic ability refers to the evaluation one makes of oneself in respect to the ability to achieve in academic tasks in general as compared to others. This is in conformance with the definition of self-concept by Mead that self involves awareness and articulation of an internalized social process.[2]

For this study, the term is measured by the responses of a subject to the Michigan State General Self-Concept of Ability Scale (S-C,A) (see Appendix A). This test consists of eight five-choice items developed from a pretest analysis as explained earlier in this chapter. The items were coded from 5 to 1 with the higher self-concept alternatives receiving higher values.

Reliability - The scale, consisting of eight multiple choice items, originally formed a Guttman scale with coefficients of reproducibility of .95 males and .96 for females for 1050 seventh grade students in the "Oldtown" public school system. In the eighth and ninth grades, random samples of 35 males and 35 females indicated that these items retained a scale form with reproducibilities of .96 and .97 for males in the two years and .92 and .93 for females in the same two years. In addition, the scale

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[1] Mead, op. cit., p. 164.

has reliabilities calculated by Hoyt's Analysis of Variance of .82, .91, .92, and .86 for males, and .77, .84, .84, and .84 for females for the 7th, 8th, 9th, and 10th grades, respectively (see Table 2.4).

Table 2.4

RELIABILITIES AND COEFFICIENTS OF REPRODUCIBILITY OF SELF-CONCEPT OF ABILITY SCALE FOR FOUR YEARS

	MALE			FEMALE		
Grade	Hoyts' A.V.	C.R.	N	Hoyts' A.V.	C.R.	N
7th	.82	.95	513	.77	.96	537
8th	.91	.96	35	.84	.92	35
9th	.92	.97	35	.84	.93	35
10th	.86	.86	697	.84	.91	802

The reliabilities and coefficients of reproducibility were stable over the four-year period. In addition, a test-retest correlation over a one-year period (between 8th and 9th grade) was calculated. The correlation over this period was .75 (446) for males and .77 (508) for females (See also correlational matrices in Appendix). Since it is expected that self-concept is not constant but fluctuates with changes in interpersonal relations, these correlations are high.

Specific Self-Concept of Academic Ability refers to the evaluation one makes of himself in respect to a given subject matter area. Operationally it is defined as the scored responses to the Michigan State University Self-Concept of Ability in Specific Subjects Scales (see Appendix A). The items for these scales are directly parallel to the general self-concept of ability items, only in this instance dealing with specific subjects. The specific subjects are mathematics, English, social studies, and science, the core academic courses offered in the junior high school program. The student is asked to respond separately by subject thus giving four eight-item tests which are scored like the general self-concept test.

Rebliabilities calculated by Hoyt's Analysis of Variance for 10th graders as shown in Table 2.5 indicate these scales to be internally consistent. Test-retest correlations are also high (see Table 2.9), ranging from .63 to .80, considering that these variables are expected to vary over a year's time.

Table 2.5

RELIABILITIES OF SCALES MEASURING SELF-CONCEPT OF ABILITY IN SPECIFIC SUBJECT AREAS, THE IMPORTANCE OF ACHIEVING HIGHER GRADES THAN OTHERS, AND PERCEIVED EVALUATIONS OF ABILITY BY OTHERS (HOYT'S ANALYSIS OF VARIANCE 10TH GRADE)

Factors	Male N = 697	Female N = 802
	Hoyt's A of V	Hoyt's A of V
Self-Concept of Ability in:		
Mathematics	.93	.93
English	.90	.89
Social Studies	.92	.93
Science	.94	.93
Importance of Achieving Higher Grades	.83	.80
Perceived Evaluations of Academic Ability:		
Parents	.84	.84
Teachers	.88	.85
Friends	.86	.82

Validity of Self-Concept Scales - The correlations of specific self-concept of ability in each of four subject areas with general self-concept of ability, derived from cross-sectional populations, provide some information on how well the specific self-concept measures match contemporary criterion measures of general self-concept of academic ability. These are presented in Table 2.6.

Table 2.6

CORRELATIONS OF GENERAL SELF-CONCEPT WITH
SPECIFIC SUBJECT SELF-CONCEPT

Factors	Male				Female			
	7th Grd.	8th Grd.	9th Grd.	10th Grd.	7th Grd.	8th Grd.	9th Grd.	10th Grd.
Math Self-Concept X G S-C	.65	.70	.69	.68	.64	.67	.63	.58
English X G S-C	.63	.64	.62	.64	.61	.65	.66	.63
Social Studies X G S-C	.64	.69	.67	.69	.62	.72	.71	.70
Science X G S-C	.66	.71	.67	.73	.54	.67	.68	.64
	N=513	N=731	N=446	N=425	N=537	N=751	N=508	N=517

Evidence of the construct validity of the general self-concept instrument was found when the correlation between general self-concept and theoretically relevant variables were examined. The evaluation which a person perceives others to hold of him is viewed as the major factor in the formation and maintenance of self-concept. The correlations in Table 2.7 reveal that there is a strong relationship between self-concept of ability and the perceived evaluations of academic ability held by others. This is in logical conformance to the theoretical propositions which guide this study.

Table 2.7

CORRELATIONS BETWEEN PERCEIVED EVALUATION OF OTHERS AND GENERAL SELF-CONCEPT

Grade	Mother/Father	Teacher	Friend	Total
7th Grade *(N = 110)	.50 .52	.55	.47	.58
Grade	**Parents**	**Teacher**	**Friend**	**Total**
8th Grade (Males N=731)	.64	.49	.50	.60
(Females N=751)	.75	.63	.58	.74
9th Grade (Males N=446)	.76	.72	.75	.82
(Females N=508)	.82	.77	.79	.83
10th Grade (Males N=425)	.72	.75	.71	.82
(Females N=517)	.79	.79	.76	.84

*Males and Females Combined.

Predictive validity is the relationship between performance on the test and some future activity. A prediction equation on a sample of 50 male and 50 female seventh grade students not involved in this study was calculated using general self-concept and derived IQ scores to predict June grades. The resulting correlations were .70 for females and .71 for males.[1] This compares very favorably to the findings in this study which were .72 for females and .69 for males. Such close prediction over a period of seven months speaks well for the predictive validity of the general self-concept of ability scale.

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[1] Brookover et. al., (1962), op. cit., Appendix C, p. 101.

In addition to the prediction equation mentioned above, correlations of general self-concept of ability and the criterion variable GPA are reported in Table 2.8.

Table 2.8

CORRELATIONS OF GENERAL SELF-CONCEPT OF ABILITY WITH GPA

Grade	Males			Females		
	Jan.	June	No.	Jan.	June	No.
7th Grade	.57		513	.57		537
8th Grade	.63	.60	731	.65	.63	751
9th Grade	.61	.57	446	.64	.60	508
10th Grade	.56		425	.59		517

These correlations indicate that the self-concept of ability scale is an adequate predictor of grade point average.

It is concluded that the general self-concept of ability scale: 1) has a high internal consistency as measured by Hoyt's analysis of variance; 2) has a consistently high coefficient of reproducibility making it an excellent Guttman scale; 3) has a high test-retest correlation; and 4) has concurrent, construct and predictive validity. The consistency of the reliability measures and indices of validity over a three-year time period indicates that this scale is a consistent and valid measure.

The Importance of Achieving Higher Grades than Other Students

In order to ascertain the relationship between self-concept of ability and the importance of achieving higher grades than other students, a type of value orientation, a scale was devised to measure the importance attached to relative achievement (see Appendix B). This scale consists of seven four-choice items. The items were coded from 4 to 1 with the alternatives indicating greater importance assigned the higher values. A total score of the seven items was used in the analyses. This scale was included to determine if self-concept of ability was independent of the student's value orientation toward competitive achievement.

Reliability - The Importance of Achieving Higher Grades Than Others Scale originally formed a Guttman scale of Acceptable reproducibility of (.91) on a pre-test. In the eighth grade, it had a reliability by Hoyt's analysis of variance of .86 for males and .95 for females; in ninth grade the reliabilities were .86 for males and .77 for females; and in the tenth grade the reliabilities were .83 for males and .80 for females. There is further evidence that though this scale originally formed a Guttman scale, the items are not unidimensional but are composed of two factors. Thus, conclusions based upon the assumption of unidimensional measurement are not warranted or made in this study. The test-retest reliability of this scale reported in Table 2.9 is .70 for males and .68 for females.

Student Perceptions of the Evaluations of Others

In order to explore the effects of perceived evaluations of academic ability of others upon student self-concept of ability, the students were asked to respond to five multiple choice questions each, for parents, teachers, and friends, which closely paralleled and were scored in the same manner as the general self-concept of ability scale. (See Appendix "C")

Reliabilities calculated by Hoyt's analysis of variance procedures in the 10th grade resulted in reliability coefficients of .84 for males and .84 for females on Perceived Parental Evaluation, .86 for males and .82 for females on Perceived Friend's Evaluations and .88 for males and .85 for females on Perceived Teacher Evaluation. Test-retest correlations reported in Table 2.9 for a one year period, for Perceived Parental Evaluations and Perceived Friend's Evaluations were relatively low for males (.41 and .49) as compared to females (.70 and .78).

On Perceived Teacher Evaluations both males and females had high test-retest correlations of .74 and .77 respectively (see Table 2.9). Since perceived evaluations of others are expected to change over time these test-retest correlations are minimal estimates of variation due to measurement inconsistency.

Table 2.9

TEST-RETEST RELIABILITIES OF MAJOR INSTRUMENTS
ONE-YEAR PERIOD, RANDOM SAMPLES OF MALES AND FEMALES

Factors	Males N=35	Females N=35
Self-Concept Math	.70	.66
Self-Concept English	.73	.63
Self-Concept Social Studies	.74	.77
Self-Concept Science	.80	.67
Importance of Achieving Higher Grades Than Others	.70	.68
Perceived Parental Evaluations	.41	.70
Perceived Teacher Evaluations	.74	.77
Perceived Friends' Evaluations	.49	.78
Total Perceived Evaluations of Three Significant Others	.57	.79

Significant Others

A list of general significant others and academic significant others was obtained in the eighth, ninth and tenth grades by asking two open-ended questions: "In the space below, list the names of the people whom you feel are important in your life. Please indicate who each person is," and: "There are many people who are concerned about how well young people do in school. In the space below, list the names of the people you feel are concerned about how well you do in school. Please indicate who each person is" (see Appendix D).

Prior analysis[1] indicated that the three categories of parent, peer and teacher were the most frequent to occur in response to these questions.

Academic Achievement

For the purposes of this study, "academic achievement" was operationally defined as the total grade point average of a subject's semester grades. Grade point averages were obtained by averaging grades in English, mathematics, social studies and science in the 7th, 8th, and 9th grades. In the 10th grade, where available, the same four academic grades were averaged. However, where a student did not have one of these academic grades, other subject grades were used to compute a grade point average.

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[1] Brookover, et. al., op. cit., (1962), pp. 55-57; Shailer Thomas, Wilbur B. Brookover, Jean LePere, Don Hamachek and Edsel Erickson, "The Effects of Three Treatment Conditions on Changing Self-Concept and Achievement," Paper read at the Ohio Valley Sociological Meetings at Columbus, Ohio, April, 1964.

The reliability of grade point average for four subjects computed by Hoyt's analysis of variance was .91 for males and .93 for females in the seventh grade. In the eighth grade reliabilities by the same method were .93 for males and .93 for females. These reliabilities were calculated on random sample of 35 males and 35 females. Test-retest correlations between seventh grade January GPA, and 8th grade January and 8th grade June GPA were .84 and .83 for females (N = 751) respectively and .83 and .73 for males (N = 731) respectively. The correlations between eighth grade June GPA and ninth grade January GPA and ninth grade June GPA were .81 and .80 for 446 males, and .81 and .80 for 508 females (see also correlational matrices in Appendix).

Parent Perceptions[1]

Experiment "A," which was concerned with parents and the parent-child relationships, offered an opportunity to gather information on the parent's perception of his child. A questionnaire was administered to the parental, experimental and placebo groups in the Fall of 1962 at the beginning of the meetings and in the Spring of 1963 at the conclusion of the meetings (see Appendix E). The questionnaire contained sections parallel to sections of the student questionnaire. Thus, changes in parental attitudes as well as student attitudes could be examined. As indicated in Table 2.10, reliabilities for test-retest correlations were calculated on items which measured parents' perceptions of: 1) child's ability; 2) the importance the children attached to grades; and 3) child's self-concept of ability. Considering that these variables are expected to vary, all correlations were high. Hoyt's analysis of variance reliability coefficients were also calculated on items measuring parents' evaluation of child's ability. The reliability coefficient for experimental group parents was found to be .76; and for placebo group parents the reliability was .79.

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[1] See Appendix E

Table 2.10

TEST-RETEST RELIABILITIES ON PARENTAL INSTRUMENTS, FALL TO SPRING - NINTH GRADE

Parental Experiment

Instruments	Experimental Group	Placebo Group
1. Perception of Child's Ability	.69	.78
2. Perception of Importance Attached to Grades	.67	.72
3. Perception of Child's Ability in Math	.52	.84
4. Perception of Child's Ability in English	.65	.78
5. Perception of Child's Ability in Social Studies	.71	.56
6. Perception of Child's Ability in Science	.64	.76
7. Parent's Perception of Child's Self-Concept of Academic Ability	.79	.54

Other Variables

In addition to the above, other variables pertinent to the counseling, parent, or expert experiments or to the longitudinal study are discussed in the appropriate chapters.

Data Collection Schedule

The analyses in each of the three experiments and in the longitudinal study were based on data from three major sources. Data for the experimental studies was drawn from: (1) school records, (2) interviews, (3) mass student questionnaires, and (4) student experiment questionnaires and parent questionnaires. The longitudinal studies employed school records and student questionnaires.

Mass Student Questionnaire[1] - In the Fall of 1960, the first questionnaire was administered to the seventh grade students in the four "Oldtown" junior high schools. During the fall of each succeeding year (1961, 1962, and 1963), a comparable questionnaire was administered to this class. The instruments which made up the mass questionnaires are indicated below, in addition to the grade level in which they were administered.

Instruments Administered to all Students:	Grade Level Administered: 7th	8th	9th	10th
General Self-Concept of Academic Ability	*	*	*	*
Specific Self-Concept of Ability in:				
English	*	*	*	*
Mathematics	*	*	*	*
Social Studies	*	*	*	*
Science	*	*	*	*

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[1] See Appendices A, B, C, and D.
*Administered instrument.

Instruments Administered to all Students:	Grade Level Administered:			
	7th	8th	9th	10th
Importance of Achieving Higher Grades Than Others	*	*	*	*
Perceived Evaluation of Academic Ability by:				
Parents		*	*	*
Friends		*	*	*
Teachers		*	*	*
Total Perceived Evaluations of Ability by 3 Significant-Others		*	*	*
General Significant Others		*	*	*
Academic Significant Others		*	*	*
Socio-Economic Status	*	*	*	*
Memory for Past Performance				*
Memory for Past Grades				*

Parental Questionnaires[1] - The following material was gathered from the experimental parent groups in the Fall, 1962:

1. Ten Statements about your Child in Response to "Who is He?"
2. Student Role Test "What Should a Student Do?"
3. Who is Important in your Child's Life?
4. Who is Concerned About How Well Your Child Does in School?
5. **Parents' Perception of Child's School Ability.
6. **Parents' Perception of Importance of Grades to Child.

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*Administered instrument.

[1] See Appendix E.

**Material which was also gathered in the Spring of 1963.

7. *Parents' Perception of Child's School Ability in Four Specific Subjects.

8. Parents' Perception of Child's Model for Self.

9. Parents' Perception of Child's Educational and Occupational Aspiration and Expectation.

10. *Parents' Perception of Child's Self-Concept of Ability.

11. Parents' Perception of Child's Self-Concept in Four School Subjects.

12. *Parents' Perception of Teachers' Evaluation of Child's Ability.

13. Parents' Perception of Child's liking of School and School Subjects.

14. Parental Response to Report Cards.

15. Parents' Choice of Student Role and Parents' Perception of Child's Choice of Role.

16. Child's Membership Organization.

In the Spring of 1963 the Parent's Experimental group responded again to those areas designated above by an asterisk.

The Placebo group, in the Fall of 1962, responded to a series of questions intended to tap their views of school and education in general. In addition, they also answered the following questions which the experimental group answered:

1. **Parents' Perceptions of Child's School Ability.

2. **Parents' Perception of Importance of Grades to Child.

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*Material which was also gathered in the Spring of 1963.
**Material which was also gathered in the Spring of 1962.

3. *Parents' Perception of Child's School Ability in Four Specific Subjects.
4. Parents' Perception of Child's Model for Self.
5. Parents' Perception of Child's Educational and Occupational Aspiration and Expectation.
6. *Parents' Perception of Child's Self-Concept of Ability.

In the Spring of 1963, questionnaires were again given to the Parent's Placebo group. This questionnaire was modified and included only those items indicated above by an asterisk. One addition was made; the Placebo Parent group responded in the Spring to the "Perceived Teacher Evaluation of Child's Ability."

This group also responded to the same set of questions which they had answered in the Fall about their general attitudes toward education.

The purpose of these questions was three-fold: (1) to attract attention away from the area of self-concept, (2) to furnish material for the series of meetings, and (3) to assess changes in this area.

Student Questionnaire, Experiments[1] - In the Spring of 1963 the 9th grade students who were in the experimental, control, and placebo groups in each experiment were administered the

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*Material which was also gathered in the Spring of 1962.

[1] See Appendix F.

following instruments:

- Academic Significant Others
- General Self-Concept of Academic Ability
- Specific Self-Concept of Ability in:
  - English
  - Mathematics
  - Social Studies
  - Science
- Importance of Achieving Higher Grades than Others
- Perceived Parental Evaluation of Ability (General)
- Perceived Parental Evaluation of Ability (Specific)
  - English
  - Mathematics
  - Social Studies
  - Science
- Perceived Educational Expectation Level by Parents
- Perceived Teachers' Evaluation of Ability (General)
- Perceived Educational Expectation Level by Teacher
- Memory for Past Performance
- Memory for Past Grades
- Student views toward ability, "I.Q." tests, who is concerned about school, other peoples' value of education, the effect of 'feelings' on school work, and the sources of those feelings.

Counseling Questionnaire - In addition to the above-mentioned student questionnaires the students in the counseling experiment were administered instruments to give the counselor necessary information to conduct the counseling sessions more effectively. This information is described in greater detail in Chapter III.

School Records Data - From school records the following data were obtained: (1) Semester grades for mathematics, English, social studies and science for January and June at each grade level, 7th through 9th. In the 10th grade where available, English, social studies, mathematics, and science grades were also used. However, where a student did not have a grade in one of these subjects, other subject grades were used to compute grade point averages. (2) California test of mental maturity scores, verbal and nonverbal, for students in three of the four schools in the 9th grade and in all four schools in the 4th and 6th grades. (3) Information on family background; and (4) Reading scores in the 4th, 6th, and 9th grades.

CHAPTER III

EXPERIMENT "A": THE PARENTS

It was found in the previous study[1] which served as a basis for this experiment that (1) self-concept of ability was significantly related to school achievement for seventh grade boys and girls, (r = .57 for each sex); and (2) parents were almost universally named (see Table 3.1) as being both "important in their lives" and as "concerned about how well they do in school," at each grade level, 7th through 10th grade. Therefore, parents were selected as "significant others" who would be experimentally induced to enhance their evaluations of their childrens' ability. It was hypothesized that such enhanced parental evaluations would enhance the self-concept of ability and thereby the achievement of their children.

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[1] Brookover, et. al. (1962), _op_. _cit_.

Table 3.1

NUMBER AND PERCENTAGE OF SEVENTH, EIGHTH, NINTH AND TENTH GRADE STUDENTS NAMING AT LEAST ONE PERSON FROM CATEGORIES OF SIGNIFICANT OTHERS AS BEING CONCERNED ABOUT "HOW WELL YOU DO IN SCHOOL"

Significant Others	7th N=130		8th N=1751		9th N=1769		10th N=1755	
	No.	%	No.	%	No.	%	No.	%
Parents	128	98	1669	95	1688	95	1660	95
Teachers	109	84	1020	58	883	50	621	35
Adult Relatives	43	33	673	38	838	47	620	35
Other Academic Persons (Including Counselors)	27	21	597	34	506	29	518	30
Age Level Relatives	36	28	392	22	519	29	409	23
Peers, Opposite Sex	1	1	212	12	221	12	248	14
Peers, Same Sex	21	16	187	11	247	14	206	12
Local Adults	5	4	117	7	169	10	153	9
Unclassifiable (e.g. God, dogs, famous people, me)	11	8	573	33	444	25	431	25

Description and Selection of Sample

The junior high school selected for the parent experiment serves one of the more stable population areas in "Oldtown." Both high and low socio-economic areas were represented in the school. The majority of the population were in the middle socio-economic group. No minority groups were conspicuously present in this school population. The previous study[2] revealed that there were significantly more under-achievers in this school when compared to the other three junior high schools in "Oldtown," and significantly fewer low IQ students than the population as a whole. Observation of the school atmosphere reflected a considerable amount of school pride and a more-or-less permissive atmosphere with regard to discipline. This school was selected for the Parents Experiment because it was anticipated that teachers and other school personnel would be less likely to show curiosity about the project than in the other schools and therefore there might be less chance of contamination by them on the interaction of children with parents.

The Sample - All Caucasian students who had achieved below the mean GPA (computed on the four subjects of mathematics, English, social studies, and science) for both semesters of the eighth grade were defined as low-achievers. From this population, three groups were randomly selected. The first was designated the experimental group; the second, the placebo group; and the third, the control group. Initially, these groups represented random samples from the low-achieving population. Since this particular experiment depended upon the cooperation of parents, however, some changes were made in order to secure enough subjects in the experimental group.

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[2] Brookover, Paterson and Thomas (1962), *op. cit.*

Parents whose children were randomly assigned to experimental and placebo groups were contacted by telephone late in the summer of 1962. Of the forty subjects (plus nine alternates) who had originally been assigned to each group, parents of twenty-two children agreed to participate in the study in the experimental group. Parents of twenty-one children agreed to participate as members of the placebo group. The experimental group included thirteen fathers and twenty-one mothers. When the placebo group met for the first time, it included twelve fathers and seventeen mothers. Each set of parents (or single parent in some cases) was reimbursed with a small sum of money during the year to cover cost of transportation to the meetings.

Of the forty-nine subjects who had been randomly assigned to the control group, a random sample of twenty-two was selected in order to keep the numbers in experimental, placebo, and control groups relatively equal.

At the beginning of the experiment (fall/1962), there were 21 students in the experimental group, 20 in the placebo group and 22 in the control group. During the year there was a loss of parents of two subjects from the experimental group, and a loss of parents of three subjects from the placebo group (see Table 3.2).

Table 3.2

NUMBER OF PARENTS OF SUBJECTS IN EACH GROUP
AT THE BEGINNING AND END OF TREATMENT

Parental Experiment

Groups	No. of sets of Parents of Subjects Fall of Ninth Grade	No. of sets of Parents of Subjects Spring of Ninth Grade
Experimental	21	19
Placebo	20	17
Control	22	22

Table 3.3 shows the comparison of the scores of these subjects on several variables prior to treatment. It can be noted that the group means prior to treatment showed significant differences between the groups in self-concept, social class, and perceived teacher evaluation. When similar tests were made on the groups of subjects originally randomly assigned to these

groups, there was a significant difference only on self-concept.

Table 3.3

COMPARISON OF EXPERIMENTAL, PLACEBO, AND
CONTROL GROUP MEANS ON CONTROL
VARIABLES PRIOR TO TREATMENT

Parental Experiment

Variables	Group Means			F
	Experimental	Placebo	Control	
Self-Concept	25.579	27.118	24.091	3.718*
Perceived Parental Evaluation	17.737	18.235	16.182	2.404
Perceived Teacher Evaluation	16.632	19.200	16.143	4.157*
Social Class	49.632	44.706	31.045	4.989*
I.Q.	102.889	102.706	96.136	2.604
Jan. 8th grade GPA	1.532	1.559	1.352	2.345
June 8th grade GPA	1.526	1.559	1.466	.345

$^*F_{.95} = 3.16$

Comparison of sex for 3 groups: $x^2 = 1.659$ not sig. .05 level

The Experimental Group: Procedure and Analysis

At the first meeting of the experimental group, the parents were told the purpose of the year-long discussions in which they were to participate. The goals of working with parents, who in turn would communicate a more positive image of self to the child, were outlined as follows:

1. To help the child to acquire an enhanced self-concept of academic ability.
2. To develop in the parent a recognition that his child's academic weaknesses could be improved.
3. To effect a greater parental feeling of confidence and responsibility for maximum student achievement.

In responding to the questionnaire on Parental Perception of the Child (see Appendix "D") it was noted that several parents were visibly disturbed in performing the task of making a decision with regard to how their child might perceive himself.

Following this, a presentation was made centering about the hypothesis that all individuals can achieve at a higher level than that at which they are presently achieving, if they truly believe they can. Parents were further advised that their children perceive them as being extremely significant persons in their lives, and that the purpose of the year-long study would be to try to arrive at better means for helping these children to perceive themselves as being capable of doing better work in school. In response to the question, "What do you expect of us?" parents were told that they were expected to attend meetings, actively participate in discussions, and to think about what had gone on in the meetings as they went back to their homes to live and work with their children.

Partial analysis of the data obtained from the Parental questionnaire is revealed in Table 3.4.

Table 3.4

CORRELATIONS OF PARENTAL PERCEPTIONS WITH THEIR CHILDREN'S PERCEPTIONS OF GENERAL SELF-CONCEPT OF ABILITY, AND SPECIFIC SELF-CONCEPTS OF ABILITY

Parental Experiment

Item	Mother-Father N=13 $r_{.05}=.553$	Mother-Child N=21 $r_{.05}=.433$	Father-Child N=13 $r_{.05}=.553$
Total Self-Concept of Ability	.746*	.446*	.492
Concept of Ability in Math	.789*	.286	.649*
Concept of Ability in English	.750*	.457*	.502
Concept of Ability in Social Studies	.734*	.403	.635*
Concept of Ability in Science	.523	.738*	.506

*r's significantly different from zero .05 level.

It can be noted that there was significant agreement between mothers and fathers with regard to their child's total perception of himself as an achiever. Mothers may be slightly more perceptive of the child's concept of self than are fathers, but no significant difference between them was found (Table 3.4).

The second meeting for experimental group parents opened by parents responding to the question, "What has happened to your child since the last meeting?" This brought about a discussion of report cards and school grades. Following this discussion, the film, "The Development of Individual Differences" (Young America Films, Inc.) was shown. Parents were told that after viewing the film they would be assigned to small discussion groups, and were asked specifically to note:

1. Ways in which ideals and expectations of parents are communicated to children.
2. The effect of relative position in the family in relationship to the values and ideals the child sets for himself.
3. The total effect of home environment on the self-image of the child.

During the small group sessions which followed viewing of the film and in the large group discussion later, it became evident that:

1. Many parents were not yet ready to internalize responsibility for the role of "significant other" for their child in terms of helping him to improve his own self-concept and thus his perception of his ability to achieve.
2. Scapegoats for responsibility were sought and became generalized in:
    a. Past school training
    b. Teachers
    c. Subject-matter content
    d. Lack of ability to read
    e. The child is just lazy
3. When it was suggested that perhaps these were some things which the parents could not go back and undo, but must proceed with positive action, one father became extremely hostile and defensive. He very lucidly rationalized that he had his own life to live and was

not going back to relive his elementary and high school years again to "get his son through school." He asserted that really he felt that it was none of his (the father's) business if his son wanted to waste his own life.

4. At least one mother in the group (there may have been others who were silent) at this point came to the defense of the teacher and acknowledged that parents had some responsibility for encouraging the child to learn.

Thus, by the end of the second meeting with these parents, it appeared that they were beginning to see their own roles as "significant others" to their children. The fact that most of them were going through the pains of self-defensiveness was seen as necessary if any really positive action was to take place in the future. They were asked to go home and think about the evening's discussion, and it was proposed that at the next meeting the discussion would center about the topic, "What Can Parents Do?"

At the third meeting the group listened to a taped interview between a counselor and a ninth grade girl as they talked about here school achievement, her perception of self, and "significant others" in her life. Parents were given a list of guide questions for their small discussion groups. When they reassembled in the large group, it was apparent that most of the parents had moved from the defensive position which was evident at the previous meeting to a positive attitude toward self and child. It was interesting to note that one father who had not been present at the meeting when the film was viewed, exhibited similar defensive behavior as had been observed on the part of other participants at the earlier meeting. On the whole, the parents now appeared to be ready and eager to assume their role as "significant others" in communicating a more positive concept of self to their children.

During December and January, individual conferences were scheduled with all parents. During these interviews parents began to ask specific questions about how they could help their child. Many began to communicate perceptions of self and personal relationships with the child which were invaluable to the researcher in helping each parent or set of parents plan an individual course of action.

After the mid-year individual conferences with parents, four additional group meetings were held. Topics for these were as follows:

1. The development of potential which included discussion of intelligence tests, inaccuracies of perception of what people seem to be, aspiration levels, and expectations of "significant others."

2. A panel of college students who discussed self-concept in relation to achievement, the role of parents as significant others in their lives, and aspiration levels which result from perception of self.

3. A Reading Diagnostician was brought in as a resource person. It was indicated that one of the most prevalent problems among children who are referred for reading difficulty is a lack of confidence is self.

4. The final meeting served as a summary of the year's work. Parents again responded to the questionnaire. Specific instances of changing self-concepts of students were summarized by parents.

Following the final meeting, individual conferences were again scheduled with all parents. These conferences served to provide information about parents' assessment of perceived behavioral change in the child, and reinforcement to the parents of the positive role they were playing in the academic lives of their children. Data from the individual conferences provided valuable clues to the assessment of the interaction of significant others as it relates to self-concept.

The Spring conference terminated the actual treatment for the parents. As might be expected, they were extremely anxious to have some "results" of the experiment reported to them, so they were again reassembled in the fall of 1963 and given a mimeographed summary (see Appendix "F").

Analysis - While there was no significant change in total grade point average for the experimental group of students from eighth grade June semester grades to ninth grade January semester grades (see Table 3.5), forty-two percent of the total group had shown improvement by this time. As Table 3.5 indicates, by June of ninth grade, the effect of treatment was obvious in the significant improvement of grades for the experimental group, while grades for both the control and placebo groups remained virtually unchanged.

Table 3.5

COMPARISON OF DIFFERENCES IN MAJOR VARIABLES BETWEEN FALL AND SPRING, NINTH GRADE (CORRELATED "t's")

Parental Experiment

Variable	Time	Experimental N=19 One-Tail	Placebo N=17 Two-Tail	Control N=22 Two-Tail
General Self-Concept	11/62-6/63	2.6399*	-.0956	-1.5298
Perc. Parental Evaluation	11/62-6/63	.4048	-.8664	-.3726
Perc. Teacher Evaluation	11/62-6/63	1.0973	-2.3218*	-1.3013
GPA	6/62-1/63	1.4255	1.2235	1.3522
GPA	6/62-6/63	2.8199*	.7594	.2526

*Significant at .05 level

Table 3.6 indicates the changes in parental perceptions of the child's self-image in both experiment and placebo groups from fall to spring, 1962 - 1963.

Table 3.6

CHANGES IN PARENTAL PERCEPTIONS OF SELF, CHILD,
AND OTHERS FROM FALL TO SPRING UNDER TWO
EXPERIMENTAL CONDITIONS (CORRELATED t's)

Parental Experiment

Parental Perceptions of:	Experimental Group N = 27 $t_{.05} = 1.71$ One-tail	Placebo Group N = 19 $t_{.05} = 2.10$ Two-tail
Child's Academic Ability	1.7620*	-.7649
Importance Attached to Grades (by parents)	.4295	-1.2739
Teachers Evaluation of Child	2.5743*	(data not available)
Child's Self-Concept of Ability	2.3182*	1.0170

*Significant at .05 level

The crucial test of the experiment was to determine whether the treatment of parents would have persistent long-range effects on self-concept as well as academic achievement. As Table 3.5 indicates, there had been a significant change in the positive direction in both general self-concept and grade point average for the subjects during the one year period. Data were analyzed to determine whether such conditions persisted when (1) the treatment of parents was withdrawn; and (2) the students made the transition from junior to senior high school. Table 3.7 shows the changes in the experimental group over various periods of time in both self-concept and academic grade point average. A comparison of experimental, placebo, and control groups is presented in a later section of the chapter.

Table 3.7

CHANGES IN EXPERIMENTAL GROUP OVER PERIODS OF TIME DURING NINTH AND TENTH GRADE (CORRELATED t's)

Parental Experiment

Period of Time Between Grade Levels	Gen'l Self-Concept	G.P.A.	Self-Concept Math	Self-Concept English	Self-Concept Soc.St.	Self-Concept Science
Fall/8th-Fall/9th	.0000		-.1092	1.2690	1.8320	-1.1309
Fall/8th-Fall/10th	1.2205					
Fall/9th-Sp/9th (Treatment Period)	2.6399*					
Fall/9th-Fall/10th	2.0066*		1.8919*	.6692	-.7547	.8173
June/8th-June/9th (Treatment Period)		2.8199*				
June/8th-June/10th 2 year		.1154				
Jan/9th-June/10th 3 semesters		-1.0398				
June/9th-Jan/10th 1 semester		-2.4798				
June/9th-June/10th 1 year		-2.9012**				

*Significant .05 level, one-tailed test

**Opposite to predicted direction

A significant positive change in self-concept of academic ability is noted from fall of ninth grade to fall of tenth grade. With reference to academic grades, a slightly positive (although not significant) trend is noted over the two year period from 8th through 10th grades. The decline from 9th through 10th grade may be accounted for by two factors: (1) The slump which may have occurred in moving from junior to senior high school; and (2) the fact that grades had shown a positive significant change during ninth grade (see Table 3.5), and were now falling back toward the original mean.

The Placebo Group: Procedure and Analysis

Working with parents in the placebo group was as fascinating as working with those in the experimental group. At the first meeting these parents were told that their assistance was being solicited in a study of the general problems of Junior High Schools in America today. The questionnaire designed for them focused attention on such topics as discipline, teachers, comparative education, and general adolescent problems such as dating (see Appendix "E"). The number of meetings and general format of the meetings for this group was similar to those for the experimental group. No individual conferences were held with placebo group parents, however. General topics for their meetings included:

1. General problems of dealing with adolescents:
    - a. Communication
    - b. Dating
    - c. Sports - emphasis on physical fitness
    - d. School parties
    - e. Rebellion
    - f. Sex-role behavior
2. Teachers, P.T.A., etc.
3. School culture
4. Guidance and counseling in the schools
5. Academic grouping practices
6. Reading matter for boys and girls

This group spent three of the last four meetings discussing academic ability grouping in the schools. It was interesting to observe that the primary focus of their attention was on the "gifted" rather than the slow learner. Rarely, if ever, did these parents make reference to their own ninth grade son or daughter, but dealt rather in generalities. They were enthusiastic, extremely vocal, and were faithful in attendance. Because of their high degree of interest in the meetings and enthusiasm for getting together to "hash over" teachers, counselors, and "what's-wrong-with-our-schools," the investigators became concerned that this group might possibly communicate more positive perceptions of self to their children than members of the experimental group who were going through the painful process of self-analysis. But such was not the case, as Table 3.5 indicates. The only variable on which children of placebo parents showed a significant change in attitude was with regard to perceived teacher evaluation. The significantly lower assessment which these students perceived their favorite teacher to have of them as an achiever would seem to indicate that if the parents had communicated anything at all to these children it was the fact that teachers thought them to be pretty incapable students.

Analysis of Experimental, Placebo and Control Groups

The most impressive findings of the study after having worked with parents over a period of nine months were that the sons and daughters of experimental group parents had (1) altered their perceptions of self as achievers in a significantly positive direction; and (2) significantly improved their academic performance in school as reflected in academic grades given by teachers (6/62 - 6/63). By contrast, as indicated (in Table 3.5), there was no significant change in self-concept of ability for students in the placebo or control groups during the same period. Although not to a significant degree, the mean self-concept of students in the control group decreased slightly over the nine month period.

The grade point average of both placebo and control groups changed only slightly in the positive direction (from the end of eighth grade to the end of ninth grade), while the experimental group made a significant improvement during this period.

Table 3.8 indicates the analysis of variance for difference in means for students in the three groups, during the period of time in ninth grade. The placebo and control groups changed in the negative direction on perceived evaluations of parents and teachers, and self-concept while the experimental group increased in the positive direction on these variables

Table 3.8

ANALYSIS OF VARIANCE OF PRE-POST DIFFERENCE SCORES BETWEEN EXPERIMENTAL, PLACEBO AND CONTROL GROUPS, TREATMENT PERIOD

Parental Experiment

Variables	Time	Experimental N = 19	Placebo N = 17	Control N = 22	F
		$\overline{D}$	$\overline{D}$	$\overline{D}$	
General Self-Concept	11/62-6/63	1.8421	-.0588	-1.3636	4.5433*
Perceived Parental Evaluations	11/62-6/63	.3158	-.4706	-.2273	.3556
Perceived Teacher Evaluations	11/62-6/63	.5555	-1.8667	-.9523	2.9109
G.P.A.	6/62-1/63	.1831	.1576	.1440	.0274
G.P.A.	6/62-6/63	.3358	.0906	.0209	2.5000

$^*F_{.95} = 3.17$

Table 3.9

ANALYSIS OF VARIANCE BETWEEN EXPERIMENTAL, PLACEBO AND CONTROL GROUPS, TENTH GRADE

Parental Experiment

Variables	Date	Experimental N = 18	Placebo N = 15	Control N = 19	F	Sig. Level F .95
		Means	Means	Means		
General Self-Concept	11/62-11/63	1.00*	-.36*	-1.20*	3.63*	Sig.
Perceived Parent Evaluations	11/63	18.33	18.43	15.95	4.37	Sig.
G.P.A.	1/64	1.60	1.48	1.59	.15	N.S.
G.P.A.	6/64	1.56	1.47	1.61	.27	N.S.

*Represent "difference" means (9th - 10th grades)

Examination of Table 3.9 reveals that over the period from ninth to tenth grade the mean change in self-concept for the experimental group was in the positive direction and was significantly different from the negative change which had taken place for the control group over the same period of time. Also the mean negative change for the placebo group on self-concept led to the conclusion that the experimental treatment of parents did have an effect over the one year period following treatment.

There were no significant differences among group means in perceived parental evaluation before treatment was begun in the fall of 1962. Analysis of variance for 10th grade perceptions of students indicates that in tenth grade the perceived parental evaluation held by both experimental and placebo group children was significantly higher than subjects in the control group.

At the end of tenth grade, however, no significant differences persisted among groups in total grade point average. This indicates that the significantly higher grade point average of the experimental group at the end of ninth grade (see Table 3.10) fell back to its relative status in eighth grade after the treatment was withdrawn (see Table 3.10, 3.11, and 3.12).

Table 3.10

COMPARISON OF DIFFERENCES BETWEEN EIGHTH,
NINTH AND TENTH GRADES, EXPERIMENTAL GROUP,
(CORRELATED t's)

Parental Experiment

Variables	Fall 8th-Fall 9th (N = 19)	Fall 9th-Sp. 9th (N = 19) (Treatment Period)	Fall 9th-Fall 10th (N = 18)	Fall 8th-Fall 10th (N = 18)
General Self-Concept	.0000	2.6399*	2.0066*	1.2205
Perceived Parental Evaluation	.8324	.4048	.3007	1.1373
Perceived Teacher Evaluation	.5269	1.0973	-.7036	.1555
		6/62-6/63	6/63-6/64	6/62-6/64
G.P.A.		2.8199*	-2.9012**	.1154

*Significant at .05 level, one-tailed test
**Opposite to predicted direction

Table 3.11

COMPARISON OF DIFFERENCES BETWEEN EIGHTH, NINTH AND TENTH GRADES, PLACEBO GROUP, (CORRELATED t's)

Parental Experiment

Variables	Fall 8th-Fall 9th (N = 17)	Fall 9th-Sp. 9th (N = 17) (Treatment Period)	Fall 9th-Fall 10th (N = 15)	Fall 8th-Fall 10th (N = 15)
General Self-Concept	.2203	-.0956	-.5413	-.6961
Perceived Parental Evaluation	-.3335	-.8664	-.4579	-.1414
Perceived Teacher Evaluation	-.2464	-2.3218*	-1.8742	-1.9915
		6/62-6/63	6/63-6/64	6/62-6/64
G.P.A.		.7594	-1.3580	-.7663

*Significant at .05 level, two-tailed test

Table 3.12

COMPARISON OF DIFFERENCES BETWEEN EIGHTH, NINTH, AND TENTH GRADES, CONTROL GROUP, (CORRELATED t's)

Parental Experiment

Variables	Fall 8th-Fall 9th (N = 22)	Fall 9th-Sp. 9th (N = 22) (Treatment Period)	Fall 9th-Fall 10th (N = 19)	Fall 8th-Fall 10th (N = 19)
General Self-Concept	-.1661	-1.5298	-1.8657	-1.5281
Perceived Parental Evaluation	-1.1819	-.3726	-.8492	-1.8040
Perceived Teacher Evaluation	.0000	-1.3013	-1.4375	-1.5028
		6/62-6/63	6/63-6/64	6/62-6/64
G.P.A.		.2526	.3699	.8179

No sig. "t's," two-tailed tests

It can be noted from Table 3.10 that while the self-concept of the experimental group at the end of treatment in the 9th was significantly higher than at the beginning of treatment, as was also true of grade point average, the comparison of eighth to tenth grade scores did not reveal a significant difference. It is also pertinent to note that the change in self-concept for the experimental group is in a positive direction from 8th to 10th grade while the trend for both placebo and control groups was in a negative direction.

When ninth to tenth grade grade point averages are compared for the groups, the experimental group appears to have become significantly poorer in achievement. This, of course, can be accounted for by their improved achievement in ninth grade, which fell back, as did both placebo and control groups, to no significant difference between 8th and 10th grades.

While not to a significant degree, the perceived parental image of students in the experimental group continued to show a positive trend, while both placebo and control groups continued to indicate a negative trend.

A question of theoretical interest concerns the effect of transfer from junior to senior high school. It is possible that this transfer may have such an over-balancing effect on the parental influence on the self-concept as it relates to academic achievement, that the effects of treatment are totally lost. Subsequent research will determine if the trend continues in the eleventh or twelfth grades.

Table 3.13

PROPORTION OF INDIVIDUAL STUDENTS WHO CHANGED
DURING THE NINTH GRADE (SIGN TEST)

Parental Experiment

Variables		Direction of Change			No. of Changers	Sig. Level	Larger Proportion	
		-	0	+				
Gen. Self-Concept: 11/62-6/63	Experimental	3	3	13	16	.011	+	*
	Control	9	6	7	16	.402	-	
	Placebo	5	5	7	12	.387	+	
Perc. Parent Eval: 11/62-6/63	Experimental	8	3	8	16	.598	0	
	Control	9	5	8	17	.500	-	
	Placebo	5	6	6	11	.500	+	
Perc. Tchr. Eval.: 11/62-6/63	Experimental	6	5	7	13	.500	+	
	Control	12	2	7	19	.180	-	
	Placebo	8	3	4	12	.194	-	
Imp. of Grades : 11/62-6/63	Experimental	10	1	8	18	.407	-	
	Control	10	4	8	18	.407	-	
	Placebo	6	7	4	10	.377	-	
G.P.A. : 6/62-1/63	Experimental	5	5	9	14	.212	+	
	Control	7	4	11	18	.240	+	
	Placebo	5	3	9	14	.212	+	
G.P.A. : 6/62-6/63	Experimental	4	1	14	18	.015	+	*
	Control	9	5	8	17	.500	-	
	Placebo	6	1	10	16	.227	+	

*Significant beyond .05 level

In addition to the amount of change and the differences among experimental, placebo and control groups, the proportion of individuals who changed in negative and positive directions on the six variables from fall to spring of ninth grade in each group was analyzed by the sign test. These data are shown in Table 3.13.

In both general self-concept of ability and academic grade point average, a significant proportion of the members of the experimental group changed in the positive direction during the ninth grade year, which was the time during which parents were under treatment.

Table 3.14 indicates that this was not true when tenth grade data were compared with ninth grade. More subjects in the experimental group made positive changes in self-concept, while more subjects in the placebo and control groups showed negative changes in self-concept in the tenth grade year. The differences were not statistically significant in any group however.

Table 3.14

PROPORTION OF INDIVIDUAL STUDENTS WHO CHANGED FROM NINTH TO TENTH GRADES (SIGN TEST)

Parental Experiment

Variables		Direction of Change			No. of Changers	Sig. Level	Larger Proportion
		-	0	+			
Gen. Self-Concept: 11/62-11/63	Experimental	5	4	10	15	.151	+
	Control	10	4	6	16	.227	-
	Placebo	8	2	4	12	.194	-
Perc. Parent Eval: 11/62-11/63	Experimental	10	2	7	17	.315	-
	Control	11	2	7	18	.240	-
	Placebo	8	1	5	13	.291	-
Perc. Tchr. Eval.: 11/62-11/63	Experimental	9	4	5	14	.212	-
	Control	9	4	6	15	.304	-
	Placebo	8	2	2	10	.055	-
Imp. of Grades : 11/62-11/63	Experimental	9	3	7	16	.402	-
	Control	7	4	9	16	.402	+
	Placebo	9	0	5	14	.212	-
G.P.A. : 6/62-1/64	Experimental	8	5	6	14	.395	-
	Control	7	3	9	16	.402	+
	Placebo	8	2	5	13	.291	-
G.P.A. : 6/62-6/64	Experimental	11	3	5	16	.105	-
	Control	7	3	9	16	.402	+
	Placebo	8	3	4	12	.194	-

Summary

Many factors affect the patterns of change in self-concept of ability and school achievement in the experimental group as well as other students. Although intensive case studies of the experimental parents' behavior in relation to their son or daughter were made, the small number makes it impossible to report such detail without the possibility of identification. These case studies indicated, however, that there is much variation in the pattern of parent-child interaction and much variation in the extent to which any changes which occurred in the parent's evaluation were communicated to the child. There is little doubt that the experimental treatment made major changes in some parent's perceptions and evaluation of their child's ability to do better in school. In some cases it seems clear that the students perceived the change and modified their conception of their ability. In other cases the parental changes were not clearly communicated. Some parents could not overcome prior evaluations and established patterns of relationship to communicate enhanced expectations to their child. In a few cases the father and mother differed in the evaluations that they communicated.

Although more experimental group students made positive changes in self-concept during the period of the experiment than did either the placebo or control groups, the case studies did not reveal the dynamics of parent-child relations which produced such changes, if indeed they did. Since the changes in self-concept are predominantly in the direction hypothesized and significantly different from those in the placebo and control groups we presume that the parental changes during the experimental period have had an impact. The absence of similarly significant changes in the students' perception of parent's evaluation suggests that self-concept change may be due to other causes, but we find no basis for identification of other factors which could explain the significant changes in self-concept and achievement.

It is concluded that the self-concept of ability of low achieving students can be enhanced by working with parents and that this improvement in self-concept will be reflected in improved academic performance. The positive academic performance, on the other hand, does not maintain itself when such treatment is discontinued. Possibly continued treatment over longer periods will have a more lasting impact.

CHAPTER IV

EXPERIMENT "B": THE EXPERT

This experiment was designed to enhance the self-concepts of ability of low achieving students, and thereby enhance achievement, through the formal presentations of a person defined as being an "expert" from the University.

Description and Selection of Samples

The school population for this experiment comes from a wide range of socio-economic levels, though the highest or lowest status areas are not included. Among the males there were significantly more students with low intelligence test scores and fewer students with high intelligence test scores when compared to the city as a whole; this was not so for the females. One's impression of this school is that discipline is quite strict. Students often comment on the enforcement of discipline. There seems to be a large number of actively supported school activities and a considerable amount of school spirit and participation in extra curricular activities. The school includes a small proportion of Negroes, several Mexican families as well as a segment of the white collar middle class.

The junior high school is located next to a senior high school. This leads to a good deal of interaction between the junior and the senior high school students. As a result, the students in the junior high school are exposed to the activities and culture of an older group of students earlier than would be the case if the schools were geographically separated.

The mean grade point average for the total class in the school was calculated for both semesters of eighth grade. Students who were white and fell below the mean GPA for both semesters were considered a low-achieving population from which samples were drawn. Three groups of thirty-five each were randomly selected from this population. The mean GPA for the two semesters of eighth grade for this school were: January eighth grade = 2.14, June eighth grade = 2.10.

Questionnaires were administered in September, 1962 to the entire ninth grade class. In June, 1963, following the completion of the treatment, the questionnaires were re-administered to those students who were in the three groups in the experiment.

Grades were obtained from the school records in February, 1963 and in June, 1963.

The Experimental Group: Procedures

This experiment was designed to determine whether positive evaluations of low-achieving students by an individual presented as an "expert" could effect a significant change in self-concept of ability of the student and whether this change in self-concept of ability would be manifested in changes in school achievement. This treatment was designed as a method of formal presentation. There was not a great amount of group discussion except as a means of initiating variety in the presentations, nor was there any purposeful attempt at developing rapport between the "expert" experimenter and the group or members of the group. A formal and structured prepared talk was used to convey the content of the treatment. The treatment was brief in terms of the total amount of time spent in contact with the students. The experimenter met with the experimental group seven times for an hour each time between October, 1962 and May, 1963.

The experimenter was introduced to the experimental group by the director of counseling at the junior high school as a person from the nearby university who was an "expert" in school and adolescent problems. It was explained that the "expert" would be meeting with the group a number of times throughout the school year.

The content of the communications from the experimenter emphasized the following:

1. The experimental group was selected for a series of meetings because they were capable of achieving at a higher level.

   Some people in the group were doing fairly well in school but even they could achieve at a higher level.

2. There are values, often tangible, from staying in school and performing well.
3. Good performance in school is expected and approved of by parents, teachers, and friends. Furthermore, higher achievement by students is needed by society in general.
4. Students needlessly limit their performance by thinking they cannot do better when they can. Often students are given information about their ability which is not accurate and is therefore no reason for not performing well in school.

During each meeting with the experimental group a talk which stressed some idea relevant to the school achievement of the group was given. At one of the early sessions a talk was given on the effectiveness of intelligence tests for predicting academic achievement. This topic was selected because it was found that in one of the schools there was a practice of having the student score his own tests. As a result, many of the students had a very firm idea of their abilities as they were measured by the tests used in junior high schools. It was stressed that no test could accurately assess all areas of a person's abilities. Furthermore, many of the tests that were administered as ability tests were no more than tests of past education and experience. In order to illustrate that the tests used were really quite relative to the types of questions asked, the experimenter had the students furnish a list of words and concepts which were found in the teenage vocabulary but which were not known by an adult population. On such a test as the one constructed in the meeting, all of the students would have passed; while most of the persons on the university staff would not have passed.

At another meeting the importance of ninth grade in determining one's educational and occupational placement was discussed. Many of the students felt that their performance in the ninth grade would have no effect on their future educational programs. They voiced the opinion that there was not much point in working hard in ninth grade because it didn't really count in their school records. It was pointed out that their programs for the next academic year were being formulated during the second semester of the ninth grade and that their performance in certain courses would determine whether or not they continued in an academic program, or in a vocational or in a "general" program.

Other topics discussed in the series of meetings were: the rewards of good achievement; the relevance of school subjects to everyday life and to participation in the society in the role of an adult; the relationship between self-concept of ability in school and performance in school; and, most important, the idea that all of the students selected to be in the experimental group were capable of achieving at a higher level in school.

The general tone of the series of meetings was to furnish positive evaluations to the students and encourage them to try to achieve at higher levels than they had been doing. These sessions could be called "pep" talks in that they were mainly concerned with encouragement and the incitement of greater efforts by the students.

The Placebo Group: Procedures

The experimenter also met with the placebo group. The meetings with this group followed the same form as those with the experimental group. In this group, however, the content of the communications to the students was different. No talks were given on topics which were directly related to school achievement. Instead, the topics dealt with problems which the adolescent faces in regard to his family, and his social life.

The experimenter was introduced to the placebo group as an "expert" in the area of adolescent problems by the director of counseling of the junior high school. The "expert" told the group that they had been selected by a process of random sampling, and that they were part of a project dealing with adolescent problems.

The purpose of the meetings, they were told, was to secure the opinions and attitudes of a representative group of teenagers about problems which concern the adolescent in American society. They were informed that there was an increasing concern about the teenager in our society, that many people felt that they exhibited weird and wild behavior, and that adolescents were not as responsible as the youth of previous generations. As a result of these concerns, a number of articles and books had appeared recently which dealt with the teenager and his problems. Many of these were written by people who had little or no contact with contemporary teenagers. Therefore, it was decided that some attempt should be made to find out the opinions and attitudes of the youngsters themselves. In these sessions, which were to be held throughout the year, questions were posed to secure the answers from this group. Thus, they could express their viewpoints about certain topics which were often stated to be of concern to the teenager.

In the selection of topics to be discussed in the placebo group sessions, the group was allowed more leeway than was the experimental group. At the beginning of the treatment the placebo group was asked to list several topics which they would like to hear presented in the meetings. The talks which were given by the experimenter dealt with the following topics: (1) relationships between parents and teenagers; (2) responsibilities of teenagers in regard to their parents; (3) the influence of the peer group on teenagers; (4) censorship of movies and reading material for teenagers; (5) fashions; (6) necessary and acceptable restriction for teenage activities, such as parties. Although talks were presented by the experimenter, many in the group wanted to express their opinions on the topics. As a result, the experimenter judged that there was slightly more discussion in this group than there was in the experimental group meetings. In order to avoid unwarranted controversy which might spread beyond the group sessions and affect relationships between the research staff and the school system, for the most part, the experimenter used materials by the Science Research Associates which were available in the school counseling center.

The placebo group met seven times between October, 1962 and June, 1963. Questionnaires were administered in September, 1962 and June, 1963. The last administration of the questionnaire preceded the assignment of final grades in June, 1963.

No special contact was made with the control group. Questionnaires were given to them as part of the mass testing procedure (See Chapter II).

Analysis of Experimental, Placebo, and Control Groups

Comparison of Groups after Selection

After selection by random sampling the three groups of thirty-five low-achieving students in the Expert Experiment were compared on the seven variables of: 1) grade point average for two semesters of the eighth grade; 2) intelligence test scores; 3) self-concept of ability; 4) perceived parental evaluations; 5) perceived teacher evaluations; 6) socio-economic status; and 7) importance of grades. One-way analysis of variance was used to test the three groups. None of the F ratios were significant at the .05 level on any of the variables (see Table 4.1).

Table 4.1

MEANS AND COMPARISON OF MEANS OF RANDOM SAMPLES
(ANALYSIS OF VARIANCE, "t" TEST, AND X^2)

Expert Experiment

Group	Self-Concept	Social Class	I.Q.	Perceived Parental Evaluation	8th Jan GPA	8th June GPA
Experimental Group N = 35	24.60	29.49	98.94	16.47	1.39	1.33
Placebo Group N = 35	23.86	32.00	98.48	16.64	1.32	1.29
Control Group N = 35	23.91	33.49	95.03	16.65	1.31	1.36
F =	.40(NS)	.423(NS)	1.16(NS)	.03(NS)	.33(NS)	.31(NS)

$F_{.05}$ (2,100) = 3.09

Sex x 3 groups x^2 = .99(NS)

It is concluded that the groups selected did constitute equivalent random samples.

Pre-Treatment Analysis of Subjects Who Actually Participated in the Experiment

A recomparison was made of the groups that actually participated in the experiment. Three subjects were lost from the experimental group; seven from the placebo group; and nine from the control group. Again one-way analysis of variance was used to test the groups of students on the variables listed in Table 4.1. There were no F ratios significant at the .05 level on any of these variables (see Table 4.2). This, in addition to a chi-square test, indicated that the three groups were still random samples from the low-achieving population. In addition, comparisons were made of group means on two other variables in this study: perceived evaluation by teacher, and importance of grades. The results in Table 4.2 indicate no significant difference in group means on these two variables.

Post-Treatment Analysis

Correlated "t" tests were used to determine whether there had been any significant changes within each group in the experi experiment. The results of this analysis are presented in Table 4.3. For the experimental group a one-tailed test was used on

3

the following variables: self-concept of ability; GPA at the end of the first semester in ninth grade; GPA at the end of the second semester ninth grade; and importance of grades.

Table 4.2

COMPARISON OF EXPERIMENTAL, PLACEBO, AND CONTROL GROUP MEANS ON CONTROL VARIABLES PRIOR TO TREATMENT

Expert Experiment

Variables	Group Means			F
	Experimental N = 32	Placebo N = 28	Control N = 26	
Self-Concept	23.78	25.29	25.04	1.15
Perceived Parental Evaluation	16.56	16.32	16.31	.10
Perceived Teacher Evaluation	16.60	16.81	16.46	.02
Importance of Grades	20.94	21.21	47.92	.18
Social Class	30.22	37.71	34.31	1.12
I.Q.	99.13	99.30	93.77	2.12
Jan. GPA	1.41	1.34	1.34	.29
June GPA	1.34	1.30	1.39	.30

$F_{.95} = 3.15$

Sex x 3 Groups $x^2 = 2.49$

The one-tailed test is used since the treatments were designed to enhance scores on these variables. A two-tailed test is used for all comparisons of the placebo group and the control group and for the variables of perceived evaluations by parents and of perceived evaluations by teachers in the experimental group.

The reason for the latter is that there was no effort made in the Expert Experiment to induce change in these variables.

The correlated "t" tests to determine changes from pre- to post-experiment for each group indicate that the experimental group decreased significantly on Perceived Teacher Image. The placebo group decreased significantly on Importance of Grades. The "t" value of the experimental group on Importance of Grades should be noted. Since a one-tailed test was used, however, this value is not significant in the predicted direction.

All three groups improved significantly on the first semester grades, indicating that there were no treatment effects. A comparison of grades, at the end of the experiment in June, 1962 indicates that the placebo and control group had made no change. That is, they had lost all of the significant increase in grades found at the end of the first semester. At the end of the school year, the experimental group was slightly positive, though not significantly. It could be possible, therefore, that the treatment for the experimental group at least raised grades somewhat but was not sufficient to change grades significantly.

Table 4.3

COMPARISON OF DIFFERENCES BETWEEN FALL AND SPRING, NINTH GRADE (CORRELATED "t's")

Expert Experiment

Variables	Pre- to Post-Treatment Correlated "t" Tests for Three Groups in the Expert Experiment		
	Experimental N = 32	Placebo N = 28	Control N = 26
General Self-Concept 11/62-6/63	1.04111	-.5203	-1.3144
Perceived Evaluation of Parents 11/62-6/63	-1.1816	.5922	-.0763
Perceived Evaluation of Teacher 11/62-6/63	-2.1751**	-.5694	-.5660
Importance of Grades	-2.43153[1]	-3.2221**	-1.0262
GPA - 6/62-1/63	4.5239*	2.8873**	2.1275**
GPA - 6/62-6/63	1.06935	-.2282	-.0566

*Significant at the .05 level one-tail test
**Significant at the .05 level two-tail test
[1] Opposite to predicted direction

Analysis of variance was calculated on the post treatment scores of the three groups in the Expert Experiment. There were no significant F ratios at the .05 level (see Table 4.4).

Table 4.4

POST-TREATMENT ANALYSIS OF VARIANCE BETWEEN EXPERIMENTAL, PLACEBO AND CONTROL GROUPS, NINTH GRADE

Expert Experiment

Variables	Date	Experimental N=32 $\overline{X}$	Placebo N=28 $\overline{X}$	Control N=26 $\overline{X}$	F	F 05 = 3.11
General Self-Concept	6/63	24.41	24.86	24.27	.1589	NS
Perc'd. Par. Evaluation	6/63	12.03	12.75	12.23	.4245	NS
Perc'd. Teacher Evaluation	6/63	15.69	17.04	16.08	1.8067	NS
Importance of Grades	6/63	19.84	19.25	20.50	.9202	NS
G.P.A.	1/63	1.73	1.48	1.56	2.3002	NS
G.P.A.	6/63	1.44	1.26	1.38	.8487	NS

The sign test was used to determine whether there was a significant proportion of changers in any of the groups on the variables studied. The results are presented in Table 4.5. There was a tendency for positive changers on self-concept of ability in school to be in the experimental group; negative changers were found in the placebo group. The experimental and placebo group decreased significantly on importance of grades. The experimental group tended to have a significant proportion of changers in perceived evaluation by teachers. All three groups tended to improve on GPA at the end of first semester ninth grade. None of the three groups had a significant proportion of changers on GPA at the end of the school year.

The results of the analysis of data from the Expert Experiment indicates that the experimental group did not increase significantly on self-concept of ability in school or GPA at the end of the ninth grade school year. There was no significant difference among the means of the variables studied at the end of the experiment. There was not a significant proportion of changers in the experimental group on self-concept of ability in school or GPA at the end of the experiment.

Table 4.5

PROPORTION OF INDIVIDUAL STUDENTS WHO CHANGED DURING THE NINTH GRADE (SIGN TEST)

Expert Experiment

Variables		Direction of Change			No. of Changers	Sig. Level	Larger Proportion
		-	0	+			
Gen. Self-Concept: 11/62-6/63	Experimental	11	2	19	30	.100	+
	Control	13	7	6	19	.084	-
	Placebo	13	3	12	25	.500	-
Perc. Parent Eval: 11/62-6/63	Experimental	16	6	10	26	.164	-
	Control	8	8	10	18	.407	+
	Placebo	12	12	14	26	.425	+
Perc. Tchr. Eval.: 11/62-6/63	Experimental	18	4	10	28	.093	-
	Control	14	7	5	19	.032	-
	Placebo	11	3	11	22	.584	0
Imp. of Grades : 11/62-6/63	Experimental	23	1	8	31	.006	-
	Control	13	1	12	25	.500	-
	Placebo	18	4	6	24	.011	-
G.P.A. : 6/62-1/63	Experimental	5	3	24	29	.0005	+
	Control	7	4	15	22	.067	+
	Placebo	4	7	17	21	.004	+
G.P.A. : 6/62-6/63	Experimental	12	4	16	28	.288	+
	Control	10	4	12	22	.416	+
	Placebo	13	2	13	26	.425	0

An attempt was made to explain those subjects who had changed on self-concept or GPA through an examination of the direction of change on perceived parental evaluations. It was concluded that there was a relationship between changes in self-concept and changes in perceived evaluation by parents (Table 4.6). This suggests that parents, as established significant others, influence self-concept of ability, and that the expert did not successfully contradict the perceived evaluations by parents. Thus, it is conceivable that the changes which did occur were related to perceived evaluations by parents and not due to the effects of treatment.

Table 4.6

EXPERIMENTAL GROUP CHANGERS ON SELF-CONCEPT
AND PARENTAL EVALUATION, TREATMENT PERIOD

Expert Experiment

Factors		Self-Concept of Ability Changers		
		-	+	Totals
Perceived Parent Evaluation Changers	-	9	6	15
	+	1	9	10
Totals		10	15	25

$X^2 = 4.58$, $P < .05$
Corrected for continuity.

Analysis of Groups After One Year of Treatment

Questionnaires were again administered to the experimental groups in the fall of 1963 when the students were in the tenth grade. This data provided follow-up information on the experimental groups for the year following treatment.

Correlated "t" tests were used to determine whether there had been any significant changes in each group from the start of the treatment in the fall of ninth grade to the fall of tenth grade. Again, one-tailed tests were used for the experimental groups on the variables of self-concept of ability in school, two measures of GPA, and the importance of grades. Two-tailed tests were used for all variables for the placebo and control groups. The results show that there was a significant improvement in GPA at the end of the first semester in tenth grade for the experimental group. There was also a significant improvement on GPA for the placebo group. There was no significant improvement for the control group. No significant change was found in self-concept of ability for any of the experimental groups. For the placebo group there was a significant decrease in importance of grades. The larger "t" value for importance of grades in the experimental group should be noted. However, since a one-tailed test in the positive direction was used this can not be considered as statistically significant in the predicted direction.

Table 4.7

COMPARISON OF DIFFERENCES BETWEEN THE NINTH AND TENTH GRADES (CORRELATED t's)

Expert Experiment

Variables	Dates	Experimental N=32 t	Placebo N=25 t	Control N=23 t
General Self-Concept of Ability	11/62-11/63	.6929	-1.0246	.5432
Perceived Parental Evaluations	11/62-11/63	-1.7980	.6374	.5718
Perceived Teacher Evaluations	11/62-11/63	-.6022	-.7196	-.1654
Importance of Grades	11/62-11/63	-2.2990	-4.2929**	-.6414
G.P.A.	6/62-1/64	3.4955*	2.8134**	1.4283
G.P.A.	6/62-6/64	3.2660*	2.9505**	.4485

*Significant at .05 level, one-tailed test
**Significant at .05 level, two-tailed test

Table 4.8

ANALYSIS OF VARIANCE BETWEEN EXPERIMENTAL PLACEBO AND CONTROL GROUPS, TENTH GRADE

Expert Experiment

Variables	Date	Experimental N = 30 $\overline{X}$	Placebo N = 25 $\overline{X}$	Control N = 22 $\overline{X}$	F	Sig. Level F .95
Self-Concept of Ability	11/63	24.30	24.56	26.00	1.16	NS
Perceived Parental Evaluation	11/63	15.43	16.88	17.00	1.93	NS
Perceived Teacher Evaluation	11/63	16.23	16.79	16.54	.20	NS
Importance of Grades	11/63	19.93	19.24	20.64	.96	NS
G.P.A.	1/64	1.70	1.64	1.65	.08	NS
G.P.A.	6/64	1.62	1.73	1.45	1.60	NS

Analysis of variance was calculated on the tenth grade data for the three groups in the experiment (see Table 4.8). There were no F ratios significant at the .05 level. This indicates that there was no significant difference among the means of the three groups in the experiment. Thus it is concluded that there is no treatment effect a year after the treatment was initiated.

The sign test was used to determine whether there was a significant proportion of changers in the groups in the experiment (see Table 4.9). Table 4.9 indicates that there was not a significant proportion of changers on self-concept of ability in school in any of the groups. All three groups had a significant proportion of positive changers for the first semester tenth grade G.P.A.. The experimental and placebo groups had a larger proportion of changers on the importance of grades variable.

Table 4.9

PROPORTION OF INDIVIDUAL STUDENTS WHO CHANGED
FROM NINTH TO TENTH GRADES (SIGN TEST)

Expert Experiment

Variables		Direction of Change			No. of Changers	Sig. Level	Larger Proportion
		-	0	+			
Gen. Self-Concept: 11/62-11/63	Experimental	11	5	16	27	.221	+
	Control	10	2	11	21	.500	+
	Placebo	10	6	9	19	.500	-
Perc. Par. Eval. : 11/62-11/63	Experimental	19	2	11	30	.100	-
	Control	9	5	9	18	.593	0
	Placebo	11	2	12	23	.500	+
Perc. Tchr. Eval.: 11/62-11/63	Experimental	14	2	16	30	.429	+
	Control	11	5	7	18	.240	-
	Placebo	13	3	8	21	.192	-
Imp. of Grades : 11/62-11/63	Experimental	20	4	8	28	.019*	-
	Control	10	3	10	20	.588	0
	Placebo	21	2	2	23	<.001*	-
G.P.A. : 6/62-1/64	Experimental	7	5	20	27	.010*	+
	Control	5	3	15	20	.021*	+
	Placebo	6	2	17	23	.017*	+
G.P.A. : 6/62-6/64	Experimental	4	6	20	24	.001*	+
	Control	8	3	10	18	.407	+
	Placebo	4	5	14	18	.015*	+

*Significant at .05 level

Summary

It is concluded that an "expert" presenting material designed to enhance self-concept of ability in a formal manner is not an efficient strategy for increasing either self-concept of ability or school performance among low-achieving ninth grade students.

CHAPTER V

EXPERIMENT "C": THE COUNSELOR

This experiment was designed to counteract the impact of continuing interaction with significant others (usually parents) who make unfavorable comments or low appraisals of the student's ability.

Specifically, the objective was to enhance the low self-concepts of ability of low-achieving students and thus to enhance achievement under circumstances where it would theoretically be unlikely to occur without the creation of some new "significant" person in the life of a student - in this case, the counselor. The intent was to assist the student to see himself and his abilities from the counselor's point of view.

Description and Selection of the Samples

The experiment began with a total of fifty low-achieving students, each of whom had one or both parents whom he perceived as holding a low image of his ability. The experimental and control groups included those students in one school who met the following criteria: 1) below average achievement for both semesters of the eighth grade; 2) below average self-concept of ability; 3) parents were perceived as holding low images of their children's ability to do well in school. Twenty-five were randomly selected for individual and group counseling sessions designed to encourage a more positive self-concept. The remaining twenty-five served as a control group. The control youngsters received no special counseling but were free to participate in the regular school counseling program. Both groups lost two or three students over the course of two years because of unavoidable circumstances.

The usual pre- and post-test data on the students' self-concepts of ability, perception or significant others' expectations, and achievement were obtained on both treatment and control groups to allow for analysis of change.

The Experimental Group: Procedures

Primary objective - Essentially, the counselor sought to establish the kind of relationship with his counselees which would assist them toward more positive self-evaluations and higher self-concepts.

The counseling setting - The counseling room was a small, poorly ventilated, 8 x 8 brick-walled room which was formerly used as a school storage area.

The school in which this experiment was conducted was a combined elementary and junior high school, which included grades K-9. The population was about sixty-five percent white and thirty-five percent Negro. Most of the student body came from lower-middle class families.

Counseling aids - In order to assist the counselor in getting information about his counselees, five different aids were used:

An informational questionnaire giving father's occupation, outside interest, subjects liked best and least, etc. (see Appendix H).

The Mooney Problem Check List and the SRA Youth Inventory, administered during the first week of counseling.

The California Psychological Inventory and the Maslow Security-Insecurity Inventory, administered on a pre- and post-test basis to analyze extent of psychological change.

Tape recordings of individual and group sessions to provide ideas and approach strategies for future sessions.

The mass-test student questionnaire (see Chapter II).

Ninth Grade Counseling Strategies

The counselor attempted to create a tolerant, empathic atmosphere where mutual trust and confidence could exist. A deliberate effort was made in the early stages to establish a purpose for the counseling relationship. To make this purpose clear the counselor 1) indicated to the subjects during the initial individual interviews that he knew the student had not done very well in school and that he knew the student was concerned about this; 2) suggested that the student could probably do better in school and that he was interested in assisting him; 3) thought the student was capable of improving; and 4) explained that since he was going to be the student's counselor, perhaps together they could work on ways and means for enhancing his performance.

Depending on the moment, the topic, and the youngster, the counselor was at various times listener, interpreter, or reflector. For the most part, his role in these counseling sessions was neither passive nor unassuming.

The youngsters were called from their classes to go to the counseling sessions. Ideally, it might have been better to have had more out-of-school meetings, but the intent was to be as much like a regular school counselor as possible.

Individual sessions - For the first half of the ninth grade school year each youngster was seen individually about once every ten days for sessions lasting anywhere from one-half to one hour. On the assumption that one must feel like an adequate personality before he can perform like an adequate academician, the counselor focused in the beginning on more than school and grades. Although each student knew the counselor was there to help him academically improve, initial interviews covered both in- and out-of-school concerns. It was apparent to the counselor that the majority of these youngsters had deep doubts about their abilities to ever do well in school. As one girl put it, "I'm the dumbest person in the world - I just know it."

Individual sessions moved from concerns the youngsters had generally to concerns they had specifically about home, school and teachers. It was quickly apparent that the majority of these youngsters had no particular goals around which to satellize their school efforts. One boy, when asked whether his parents had ever discussed his future after high school with him, answered, "Heck, no, my dad's got enough to do worrying about his own future." Table 5.1 provides some insight as to the feedback these youngsters received about vocational goals from parents.

Table 5.1

ANSWERS TO, "WHAT VOCATION DO (OR DID)
YOUR PARENTS WANT YOU TO FOLLOW?"
Counselor Experiment

The Parents Have Said	Boys		Girls	
	(14) Oct.'62	(14) May'64	(9) Oct.'62	(8) May'64
I should do what I want to do	1	2	5	4
I should aim toward a specific vocation	3	3	3	4
Nothing about vocational goals	10	9	1	0

Responses shown in Table 5.1 indicate that most of these low-achieving, low self-concept youngsters received little or no parental guidance about future goals. With three exceptions, all reflected a sort of aimless, unorganized approach to school. On more than one occasion this attitude was reflected in individual sessions. One boy, for example, explained that he got a six weeks "D" grade in English because "I just didn't get around to handing those written reports in." When asked why, he matter-of-factly stated, "I don't know. There's just too many other things I like to do better. I just never got around to it, I guess."

A deliberate effort was made to give the counselees as much positive feed-back as possible, while at the same time trying to be realistic about it. Discussions were focused not only on academic efforts, but on the counselee's social behavior, physical appearance and behavior at home. A few excerpts from recorded individual sessions will illustrate what is meant here. This is an interview with a girl following a marking period.

Counselor: Well, how are you -------------?
Girl: Fine.
C: Gosh, it's good to see you again.
G: Oh, I've gotta tell you something.
C: Okay, do.
G: I made the honor roll!
C: Congratulations! Did you really?
G: Yes, and I made an "A" in citizenship, too.
C: Wonderful!
G: I about flipped!
C: But that's what we were shooting for, wasn't it?
G: Yup.
C: That's excellent-----. I just couldn't be more pleased.

G: I about flipped!
C: What grades did you get?
G: Three "B's," an "A" and a "C."
C: Boy oh boy, that's great! I think this is wonderful---.

This is an excerpt from an interview with a boy following a prior session where he took the Wechsler Intelligence Test (WIAS) and obtained a full-scale IQ of 128.

Counselor: Remember the test you took the last time you were here? That was an intelligence test, you know. Do you know how well you did on that?
Boy: No.
C: If you were to rank yourself high, average or low, where do you think you would fall?
B: Average I guess.
C: Average? Do you know you scored higher than about 90 per cent of the kids your age who take it? You did a fantastically good job. You did well on all parts of the test. It underscores what I've believed in the first place. You're a pretty bright guy with a lot on the ball.
B: Really?
C: You know,----, sometimes the barrier that stands in the way of a person doing well or not is simply the idea he has about himself and his abilities. Maybe your idea of your abilities is lower than it should be. Maybe you're smarter than you thought.

This is an excerpt from an interview with a 14 year old boy who talks about his older and far more successful (academically) 17 year old brother.

Counselor: How do you feel about your older brother, who apparently gets mostly A's?
Boy: I don't know; but when I look at my grades, I feel pretty bad.
C: How do you feel about your brother?
B: I think he's real smart and nice. And he studies a lot - that's one thing I don't.
C: How do you get along with him?
B: We used to fight all the time, but we've outgrown that now.

C: There's just the two of you in the family, isn't there?
B: Yes.
C: Is he bigger than you?
B: Yes - about six feet and 170. Tall and skinny, like my dad.
C: How do you feel when you and he bring your report cards home?
B: I don't feel like I belong in that family - especially with those marks.
C: Does your brother ever tease you about it?
B: No, but sometimes he says things about me being slow or stupid. But I don't think he means it. He just kids me.
C: Does he say these things often?
B: Yeah, it's just a little family joke we have.
C: A little family joke?
B: Yeah. Sometimes I just walk into the house and . . . he calls me stupid.
C: But you just think he's joking.
B: Yeah, I know he isn't serious. You can tell by the tone of his voice.
C: Have you ever gotten mad at him for it?
B: No, not really.
C: You know,----, I bet it would really please him if you brought home a report card with higher grades than you've been getting.
B: It would please everybody - probably shake them up some.
C: You could do it, too. With your potential brightness, you could really take a crack at it. Tell you what - why don't we look at some specific things you might do to bring these grades up this term, like, for example, ---- (The discussion then focused on more effective study habits, better ways to read a book, note-taking, etc.)

In summary, individual sessions covered a wide range of concerns and topics. An attempt was made to build relationships and to establish rapport early in the school year. A gradual but continual process of positive feedback was started. The youngsters were seen often as the counselor endeavored at this time, particularly, to become "significant" in their lives.

Group sessions - During the last half of the school year, several sex-separated counseling sessions in groups of five or six were held. Each group was made up of members who seemed to reflect similar problems and outlooks as identified by the psychological test batteries and the counselor's own insights.

A major purpose of these group sessions was to provide an opportunity for each student to see that "he was not alone" in how he felt about self, school, parents, and teachers. A second intent was to give them a chance, under the guidance and direction of a benign adult, to express, as a group, the feelings and concerns which were originally brought out in individual sessions. Eric Fromm's concept of "Loneliness"[1] fits well. After one particularly out-spoken catharsis session in which work in school was discussed, one boy said, "You know, I thought I was the only one in school who thought he wasn't very bright." For some, to discover that their peers had some of the same nagging fears they were experiencing themselves was a great revelation. From a therapeutic standpoint, the opportunity to express anxiety, doubt, and, sometimes, anger had the effect of making them less defensive as time went on.

On several occasions study habits were discussed. Specific hints were given about how to study better, how to read a book more effectively, and so forth. With only two exceptions, both girls, none of these youngsters had any concept about good study habits, nor did they have any systematic study plan which they followed.

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[1] Eric Fromm, Escape from Freedom, (New York: Holt, Rinehart, and Winston, 1941)

In order to expose students in the experimental group to as wide a variety of feedback as possible, different "models" were brought into the counseling sessions. On one occasion an auto mechanic was brought for sessions with two groups of boys. The objective here was to expose the boys (since several wanted to be mechanics) to a young 24 year old filling-station auto mechanic, who felt the same way when he was going to school as they felt. The counselor and the mechanic conducted dialogue during which time the mechanic reflected on his past experiences in school - how he hated it, avoided it, and learned little. He spoke of the trouble he had supporting a family and how his difficulty in getting a job was probably related to "goofing off" in high school. He dressed in humble clothing, misused the English language, but communicated to these boys at a level they could understand. They listened intently. At no time did the counselor say, "Boys, this is how you'll end up if you don't study." The message was intended to be a more subtle one. The mechanic pointly told them that they would have a hard time in life if they didn't get the most out of school; the counselor did not add to this.

On still another occasion, the counselor brought in a different model for the boys - a young doctoral student and former minister. He and the counselor conducted a dialogue of about a half hour, during which time this young graduate student reflected over his own high school days and the doubts he had had about himself. The point was to give these low self-concept, low-achieving boys an opportunity to see their own feelings of inadequacy and lack of self-confidence mirrored in an obviously successful adult who once had similar feelings.

The girls were presented with two different kinds of models. On both occasions they were female college students - one a girl who had experienced knowing self-doubts while going through high school and another who was a campus beauty queen. On both occasions the counselor and the college student carried on casual conversations about a girl's high school experiences and the importance of doing as well as possible in school. The counselor tried to draw from each girl the things that used to worry her about high school, e.g., exams, certain teachers, studying, and popularity. As it turned out, each of these young female college students had had many of the same self-doubts and concerns that the ninth grade girls were having. Again, the message was intended to be a subtle one designed to come through on a low pressure frequency. The counselor chose these outside people deliberately and knew in advance what they would say and how it would mesh with the conscious concerns of these youngsters.

It was apparent to the counselor that many of these ninth grade girls felt "apart," "different," and generally less adequate than their peers. To discover that even a campus beauty queen once had had self-doubts was a small "revelation" to these girls. One girl whispered to the counselor as she left, "Was she really shy? - Really?"

Toward the end of the school year, tours with the entire group were taken to the Michigan State University campus. The purpose here was to underscore the counselor's positive feelings about school and learning.

Ninth Grade Counselor Evaluation

This, conceivably, is the most important variable of all - yet it is the most intangible. If the counselor hoped to become "significant" to these students, then the thing that mattered most was his relationships with them. For the most part, the relationships were good, solid bonds - some stronger than others. The few who were defiant, hostile, and suspicious of adults to begin with were the toughest to reach. One boy, in particular, didn't give an inch all year and his negativeness continued into the tenth grade.

On a six-item multiple-choice evaluation form, on which the best possible average score would be "6" and the worst possible average score "24," the following breakdown was obtained:

Average score obtained from 14 boys = 8.9

Average score obtained from 9 girls = 10.0

Combined average of girls & boys = 9.3

Twenty out of the 23 youngsters remaining in the group expressed a desire to have the counselor in the tenth grade.

Tenth Grade Counseling Strategy

The counselor continued to see the same youngsters during the tenth grade, but neither as frequently nor as intensively as the prior year. Although the subjects participated in the regular counseling programs of their high schools, the counselor conducting the experiment continued to visit them. His role shifted from that of counselor to that of an interested friend. No group sessions were held in the tenth grade. The counselor continued to express an interest in their school efforts and future plans. Meetings were informal and unstructured. With one exception, a boy, rapport increased and relationships grew stronger. They seemed impressed that the counselor continued to see them in an "unofficial" capacity.

Following is a piece of dialogue recorded immediately after a first meeting with a boy who had moved on to the tenth grade. It is rather typical of the kind of response most of the youngsters in the experimental group had when they discovered the counselor would be seeing them in the tenth grade, too.

(The boy walks into the counselor room reception area.)

Counselor: Hi ----, good to see you again.

Boy: Well, son of a gun, hi. I didn't know you would be my counselor again.

C: Well, I really won't be your official counselor, but I would like to come down to school from time to time to see you.

B: Will we have counseling sessions like last year?

C: Probably not exactly like last year - maybe more informal. I'd just like to see you now and then. I'm interested in you, and I would like to be of whatever help or assistance I can be as you move through school.

B: Gosh, I thought maybe I wouldn't be able to see you any more. You mean you're not really my counselor, but you're going to talk to me anyway?

C: I'd sure like to if it's all right with you.

B: Boy! Heck yes!

Analysis of Experimental and Control Groups

Pre-treatment analysis revealed no significant differences between the experimental and control groups. Post-test analysis revealed that there had been no significant change in either self-concept of ability or in GPA at the end of ninth grade (see Table 5.2).

During the treatment period academic grade point average tended to improve for both experimental and control groups. However, this improvement was significant for only the control group. The importance placed upon grades tended to decline for both groups, but only the experimental group declined significantly. Changes in self-concept tended to cluster about zero for both groups, with the experimental group showing a slightly negative trend.

Table 5.2

COMPARISON OF DIFFERENCES BETWEEN FALL
AND SPRING, NINTH GRADE, EXPERIMENTAL
AND CONTROL GROUPS (CORRELATED "t's")

Counselor Experiment

Variables	Period	Experimental Group "t"	Control Group "t"
General Self-Concept of Ability	11/62-6/63	- .7149	.8851
Perceived Parental Expectations	11/62-6/63	- .2021	- .5244
Perceived Tcher. Expectations	11/62-6/63	-1.2707	1.2774
Importance of Grades	11/62-6/63	-2.1524*	-1.3765
GPA	6/62-1/63	1.3758	1.8717*
GPA	6/62-6/63	- .6989	.1369

*Significant at .05 level

Examination of Table 5.3 indicates that at the end of treatment there were no significant differences between the experimental and control groups, with the exception of importance placed upon grades. In that case, the control group placed significantly greater importance on grades than did the experimental group.

Table 5.3

POST-TREATMENT COMPARISON OF MEANS (UNCORRELATED t's) BETWEEN EXPERIMENTAL AND CONTROL GROUPS, NINTH GRADE

Counselor Experiment

Variables	Date	Experimental N=24 $\bar{X}$	Control N=25 $\bar{X}$	t
General Self-Concept	6/63	24.83	25.96	-1.63
Perceived Parent Evaluations	6/63	13.33	12.24	1.56
Perceived Teacher Evaluations	6/63	16.57	17.04	- .72
Importance of Grades	6/63	19.29	21.12	-1.86*
GPA	1/63	1.93	2.02	- .48
GPA	6/63	1.69	1.78	- .60

*Significant at .05 level

In the follow-up analysis of the groups during the tenth grade, there were no significant differences between the two groups on any variable (see Table 5.4).

Table 5.4

COMPARISON OF MEANS (UNCORRELATED t's) BETWEEN EXPERIMENTAL AND CONTROL GROUPS, TENTH GRADE

Counselor Experiment

Variables	Date	Experimental N=21 $\overline{X}$	Control N=24 $\overline{X}$	t
General Self-Concept	11/63	25.19	24.21	.96
Perceived Parent Evaluations	11/63	17.00	16.75	.29
Perceived Teacher Evaluations	11/63	16.55	16.82	- .35
Importance of Grades	11/63	20.05	21.52	-1.43
GPA	1/64	1.62	1.51	.64
GPA	6/64	1.89	1.92	- .16

When differences between ninth and tenth grades were analyzed, there were still no significant differences within the experimental and control groups. If a trend were to be noted, the tendency was for the self-concepts of ability of the control group to decline, while GPA for the control group increased. The tendency for the experimental group was to cluster near zero on both of these variables (see Table 5.5).

Table 5.5

COMPARISON OF DIFFERENCES BETWEEN THE NINTH AND TENTH GRADES (CORRELATED t's)

Counselor Experiment

Variables	Time Period	Experimental N=21 "t"	Control N=24 "t"
General Self-Concept of Ability	11/62-11/63	.7332	-1.6022
Perceived Parental Evaluations	11/62-11/63	-1.1710	- .2262
Perceived Teacher Evaluations	11/62-11/63	.2839	.2839
Importance of Grades	11/62-11/63	- .7679	- .0719
GPA	6/62- 6/64	.7980	1.6009
GPA	6/63- 6/64	.8106	1.1135

In order to assess direction and proportion of change on different variables, sign tests were used. Table 5.6 indicates that during the period of treatment there were no significant changes in the proportion of individuals who changed in either positive or negative directions on any of the variables. Although the changes were not significant, it should be noted that both groups had more individuals who viewed grades as being less important (see Table 5.6).

Table 5.6

PROPORTION OF INDIVIDUAL STUDENTS WHO CHANGED
DURING THE NINTH GRADE (SIGN TEST)

Counselor Experiment

Variables		Direction of Change			No. of Changers	Sig. Level	Larger Proportion
		-	0	+			
Gen. Self-Concept: 11/62-6/63	Experimental	12	3	9	21	.332	-
	Control	6	7	12	18	.119	+
Perc. Parent Eval: 11/62-6/63	Experimental	8	7	9	17	.500	+
	Control	8	6	11	19	.324	+
Perc. Tchr. Eval.: 11/62-6/63	Experimental	9	6	8	17	.500	-
	Control	6	7	10	16	.227	+
Imp. of Grades : 11/62-6/63	Experimental	14	4	6	20	.058	-
	Control	12	8	5	17	.072	-
G.P.A. : 6/62-1/63	Experimental	9	0	15	24	.154	+
	Control	8	1	16	24	.076	+
G.P.A. : 6/62-6/63	Experimental	11	5	8	19	.324	-
	Control	11	4	10	21	.500	-

The only variable which showed a significant proportion of changes was the grade point average of the control group. The direction of these changes was negative (see Table 5.7).

Table 5.7

PROPORTION OF INDIVIDUAL STUDENTS WHO CHANGED FROM NINTH TO TENTH GRADES (SIGN TEST)

Counselor Experiment

Variables		Direction of Change			No. of Changers	Sig. Level	Larger Proportion
		-	0	+			
Gen. Self-Concept: 11/62-11/63	Experimental	10	3	10	20	.588	0
	Control	13	2	9	22	.262	-
Perc. Parent Eval.: 11/62-11/63	Experimental	11	1	11	22	.584	0
	Control	9	4	11	20	.412	+
Perc. Tchr. Eval.: 11/62-11/63	Experimental	10	3	8	18	.407	-
	Control	8	7	7	15	.500	-
Imp. of Grades : 11/62-11/63	Experimental	12	3	8	20	.252	-
	Control	9	5	9	18	.593	0
G.P.A. : 6/62-1/64	Experimental	12	3	6	18	.119	-
	Control	13	8	3	16	.011*	-
G.P.A. : 6/62-6/64	Experimental	8	2	11	19	.324	+
	Control	6	5	12	18	.119	+

*Significant at .05

Counselor's Evaluations and Observations

Academic Characteristics of Low-Achieving, Low Self-Concept Students

Perceptions of courses - Perceptions about courses remained virtually unchanged from ninth to tenth grade. As indicated on Table 5.8, English and math/algebra are courses which turn up as being "hardest" and "disliked" most, although the majority of the girls like English. It is interesting to note that courses "liked best" and "easiest" are those which involve little or no reading, but which do require manual skills or physical dexterity, e.g., gym, shop, and typing.

Table 5.8

ACADEMIC AND NON-ACADEMIC COURSE PERCEPTIONS TAKEN IN THE TENTH GRADE

Counselor Experiment

	Boys (14)	Like Best	Like Least	Perceived As Easiest	Perceived As Hardest
Academic Subjects	English	2	6	2	6
	Math/Algebra	4	5	1	7
	History	1	2	1	3
	Biology	2	1	0	1
Non-Academic Subjects	Drafting	2	0	0	1
	Gym	4	1	8	1
	Printing	1	0	0	0
	Art	2	1	2	0
	Band	0	0	1	0
	Shop (Wood & Metal	6	0	0	1

	Girls (8)	Like Best	Like Least	Perceived As Easiest	Perceived As Hardest
Academic Subjects	English	5	4	2	1
	Math/Algebra	1	4	2	2
	History	0	0	0	1
	Biology	0	0	0	0
	Speech	1	0	0	1
	Foreign Language	1	1	0	1
	Journalism	0	1	0	
Non-Academic Subjects	Typing	2	1	4	0
	Gym	2	2	0	1
	Art	1	0	1	0
	Band/Choir	0	0	1	0
	Bookkeeping	0	1	1	1

Total for 14 Boys & 8 Girls	Like Best	Like Least	Perceived As Easiest	Perceived As Hardest
English	7	10	4	7
Math/Algebra	5	9	3	9

Extra curricular interests - As shown in Table 5.9, both boys and girls reflected interests in sports activities, i.e., skating, swimming, golf, softball, etc. None of them mentioned extra-curricular interests which were in any way academically related. As a matter of fact, by the end of the ninth grade, only six of them had ever voluntarily read a book (novel) from cover to cover.

Table 5.9

EXTRA CURRICULAR INTERESTS

Counselor Experiment

Extra Curricular Interests	Boys (14) May '64	Girls (8) May '64
Sports Activities	2	4
Mechanics	7	
Coin & Stamp Collecting	3	1
Tropical Fish	1	1
Painting		
No Particular Interests	1	2

Study habits - Although the importance of good study habits was discussed and reinforced by the counselor time and again, most of the experimental group youngsters were unable to stay with any systematic plan for study. One boy, who (he failed the ninth grade), said, "Oh, I don't like doing the homework. Rather be outside. I know kids who study and, boy, what squares."

Table 5.10

ASSESSMENTS OF STUDY HABITS IN TENTH GRADE

Counselor Experiment

My Study Habits Are:	Boys (14)	Girls (8)
Excellent	0	0
Good	4	4
Fair	7	2
Poor	3	2

Vocational Expectations - Fucure goals indicated by youngsters in the experimental group are, in most cases, modest, but, in terms of their current school performance, realistic. All of them desire to complete high school. (Table 5.11)

Table 5.11

OCCUPATIONAL FIRST CHOICE

Counselor Experiment

Occupation	Boys (14)	Occupation	Girls (8)
Printer	1	Actress	2
Salesman	1	Teacher	1
Mechanic	5	Beautician	3
Carpenter	1	Air Force	1
Architect	1	Secretary	1
Cook	1		
Teacher	1		
Factory Worker	2		
Draftsman	1		

Occupations of fathers - As seen in Table 5.12, only five of the fathers fall into the so-called white-collar category. Four of them have had education beyond high school, whereas seven did not finish high school at all.

Table 5.12

OCCUPATIONS OF FATHERS

Counselor Experiment

Father's Occupation	Number
Factory worker (skilled)	6
Unskilled laborer	6
Salesman	3
Truck driver	2
College professor	1
Janitor	1
Bartender	1
President, small firm	1

Psychological Characteristics of Low-Achieving, Low-Self-Concept Students

Results from Mooney Problem Check List - This was administered when the counselor first began to work with youngsters in the treatment group. It was used primarily to guide individual counseling sessions. Table 5.13 gives a gross picture of response trends, although it is recognized that taking percentages of maximum total scores quickly masks individual differences.

It is interesting to note that the greatest percentages of checks by both boys and girls were in the "Adjustment to School Work" category.

Table 5.13

PERCENTAGES OF MAXIMUM TOTAL SCORES OBTAINED FROM EACH CATEGORY ON MOONEY PROBLEM CHECK LIST

Counselor Experiment

Item	HPD	FLE	SRA	SPR	PPR	CSM	HF	MR	ASW	FVE	CTP
(14) Boys	8	13	8	14	12	11	7	8	33	18	12
(9) Girls	12	17	12	12	13	9	16	11	20	11	6
(23) Average	9	14	10	13	12	10	11	9	24	15	10

Health & Physical Development (HPD)
Finances, Living Conditions, Employment (FLE)
Social & Recreational Act (SRA)
Social-Psychological Relations (SPR)
Personal-Psychological Relations (PPR)
Courtship, Sex, Marriage CSM)
Home & Family (HF)
Morals & Religion (MR)
Adjustment to School Work (ASW)
Future: Vocational & Educational (FVE)
Curriculum & Teaching Procedure (CTP)

California Psychological Inventory - ninth grade pre-post test - A sign test comparison of standard scores obtained at the beginning and at the end of the ninth grade indicated a downward trend for experimental group scores on Dominance (agressive, persistent, confident); Capacity for Status (ambition, active, forceful); Good Impression (outgoing, sociable); and Achievement via Conformity (stubborn, awkward, insecure).

This is interesting because the experimental group's general self-concept scores and perceived expectations of teachers and parents also went down during this period. On the other hand, C.P.I. scores on Communality (moderate, patient, sincere), and Flexibility (insightful, informal, rebellious); both went up. During the year of actual experimentation via counseling techniques, the general picture seems to be that of a group of youngsters who became less aggressive, less forceful and outgoing, but who became more moderate, more secure, and more insightful. We must caution, however, that there were individual differences. Results are noted in Table 5.14.

Table 5.14

CALIFORNIA PSYCHOLOGICAL INVENTORY - NINTH GRADE PRE-POST-TEST RESULTS USING A SIGN TEST WITH OBTAINED STANDARD SCORES AT END OF ONE YEAR OF COUNSELING

Counselor Experiment

Factor	Changes in Negative Dir.	Changes in Positive Dir.	No Change	N (of Changers)	Significance Level
Dominance	14	7	1	21	.095
Cap' for Status	15	6	1	21	.039
Sociability	12	8	0	20	.255
Social Presence	10	12	0	22	.416
Self-Acceptance	10	11	1	21	.500
Sense of Well-Being	7	11	4	18	.240
Responsibility	11	11	0	22	.548
Socialization	12	7	4	19	.180
Self-Control	11	9	2	20	.412
Tolerance	9	12	1	21	.332
Good Impression	16	3	3	19	.02
Communality	6	13	3	19	.084
Achiev' via Conformity	17	5	0	22	.013
Achiev' via Independence	9	10	3	19	.500
Intell' Efficiency	12	8	2	20	.255
Psych Mindedness	11	8	3	19	.252
Flexibility	5	13	4	18	.048
Femininity	9	12	1	21	.332

Maslow Security-Insecurity Inventory Pre-Post Test - The Maslow S-I-I was administered at the beginning of the ninth grade and at the end of the tenth grade to all youngsters in the experimental group. Table 5.15 expresses changes in decile rank over that period. There were no dramatic shifts in individual decile positions between the beginning of the ninth and end of the tenth grades. That is, no youngster went from very high to very low security or vise-versa. The average shift in decile position for the total group was 1.7. The largest change was four deciles (two cases). Seven did not change their decile positions at all. The following table is at best a gross analysis, but it does reflect a directional trend toward the more secure range.

Table 5.15

CHANGES IN DECILE RANK ON THE MASLOW SECURITY-INSECURITY INVENTORY FROM OCTOBER 1962 TO MAY 1964

Counselor Experiment

Direction	Boys (14)	Girls (8)	Percentage of Total
1. Change to Lower Decile (Toward less secure range)	3	3	27%
2. Change to Higher Decile (Toward more secure range)	5	4	41%
3. No Change in Decile Rank (Remained in secure range)	5	0	22%
4. No Change in Decile Rank (Remained in insecure range)	1	1	10%
Total	14	8	100%

Interview Reflections of Low Academic Self-Concepts - It was the counselor's observation that many of the students in the experimental group had low self-images of their academic ability because of the sometimes subtle, sometimes direct and overt negative feedback they received from parents. The interview excerpts which follow are indicative of the kind of parental feedback.

This is a portion of an initial interview with a 14 year old girl. The discussion had just moved into schoolwork and parents' feelings about it. This girl was consistently among those who got the lowest grade point averages in the experimental group.

An Interview:

Counselor: How does your mom feel about your schoolwork?

Girl: It could be better, I guess. I don't know exactly - we don't discuss it much.

C: You don't discuss it much. Do your parents react at all to your report card?

G: Sometimes, I guess. When I bring home a report card, I'm told it's good, and when it's bad, I'm told it's bad.

C: I see you did around C work last year.

G: Ya, mostly I do that and sometimes not that good. I used to do better.

C: You used to do better. . . .

G: Ya, last year I got a B in social studies, and I know I should do better. Math gets me. I guess if I really tried - I don't think I can because I've tried all I can. I'm telling you, it really gets me. . . .

C: I wonder how your parents did in math?

G: My mother used to be poor in it, but she isn't any more. My father? Well, he's OK in it, I guess.

C: How do you know your mother used to be poor in it?

G: She told me. She says it's no wonder I'm not very good at it. I think she's really joking, though.

C: Really joking. . . . how does she joke about it to you?

G: Well, she says, well - I'm dumb; I guess I've handed it to you or something like that. My father, he doesn't kid. I mean I'm real slow in math - it takes hours to get something in my head. One time we were working on a problem, my father and I, and he lost his patience. He said, "You're so stupid you should be in a special school." He was really mad.

C: How'd that make you feel?

G: Well, it hurt me. I was a little bit mad, but I got over it. Maybe I am stupid.

This is an excerpt of a second interview with another 14 year old girl. The conversation was about school, grades, and feelings about ability to succeed in different subjects. As it happened, the subject area here, as in the above illustration, is math.

Counselor: How about math, ----? Why do you suppose you have had trouble with that?

Girl: Well, I really don't know. My mother wasn't too good in it, my dad wasn't - I don't know, I'm just not very good in it.

C: How do you know that your mom and dad weren't very good in math?

G: Well, my mom told me the first time I got a "D," and I brought it home and I said, "I got a "D" and she says, "I am not surprised because I wasn't exactly great in it." And my dad, he isn't the best in math either. He said he didn't always do the best in the subject.

C: How did that make you feel when you found they didn't do very well in math?

G: Well, I don't know, I guess, um, I don't know unless. . well, she was good in every other subject except math, and, um, I think it was in high school that she tried to pull it up and got a "B." Probably I can do better. I know. . . I can. . . I'm pretty sure I can, but. . . well, I'm going to try anyway.

C: Did it make you think that if they received low grades in math that may somehow be related to your grades?
G: No, not really, because my brother, he must be really good in math because he's an engineer. He's, he's pretty good - I guess I was the one that got it. Anyway boys are better than most girls in math. I don't know why.
C: "You were the one that got it," what do you mean?
G: Well, um, my mom and dad passed it on to me. I don't know. It may not be that. It's just that. . .
C: What do you suppose they could've passed on to you?
G: Well, I don't know - disinterest in it. I mean I don't have any fun with it. But I have to take it. If I don't take it, I'm cooked, so. . .
C: You know,----, I really think you have the ability to do better work in math than you're doing.
G: I . . . I think. . . I really talked myself into it - that I'm not very good at it.

It is interesting to note trends which stand out in individual cases. For example, of the three boys with above average GPA's in the tenth grade, two mentioned the counselor as an "academic significant other." In addition, they perceived their parents as having high expectations for their school performance. Each improved or maintained his scores on all sections of the self-concept questionnaire over a two-year period. They ranked two, three and four on the general self-concept scale in their group. The girl who consistently had the highest GPA was also one who reflected a consistent upward trend on all categories of the self-concept questionnaire. All four have above average self-concept scores for their group and perceive their parents as holding high expectations for them. Significantly, each speaks positively about his home relationships.

As stated by the girl: "Sometimes I bring home pretty good grades, but they don't bawl me out when I don't do so well."

In contrast, a consistent downward trend was reflected for one boy and one girl in particular, on all categories of the self-concept questionnaire. The boy ranks second from the bottom on the General Self-Concept scale for his group while the girl ranks at the bottom for her group. Both name their parents as ones who are important in their lives and also as their academic significant others. They did not name the counselor in either one of the above categories on the questionnaire. The boy, a ninth grade repeater, perceives his parents as having comparatively low academic expectations for him. The girl perceives here parents as having lower academic expectations for her in the tenth grade than in the ninth grade. Paradoxically, both perceive grades as more important than do the other members of their groups. (Because they are under greater pressure to do well?) In addition, both have been in constant conflict with their parents; this is in direct contrast to the three youngsters whose GPA's and self-concepts have improved over a two-year period. It is noteworthy that all five of the youngsters discussed here named their parents as important in their lives and as academic significant others. In two of the four cases where definite above average improvement was shown, the counselor was identified as an academic significant other along with the parents. As significant others, however, it is apparent that the influence of parents can work for better or for worse.

Summary

No predicted significant changes either within or between the experimental and control groups persisted from the beginning of the ninth grade and the end of the tenth grade.

At the end of the ninth grade, the experimental group reflected a trend toward lower general academic self-concepts. By the middle of the tenth grade, however, this trend showed the experimental group with as many positive as negative changes and changes in control group were in a negative direction.

There was a trend toward greater security in the Maslow Security-Insecurity Inventory by the experimental group. On the basis of these observations, follow-up analysis may reveal greater positive trends for the experimental group in contrast to the several negative trends apparent after one year of counseling in the ninth grade.

Pertinent concerns, on the basis of this study, center about the findings that the experimental group:

1. Reflected a trend, though insignificant, toward lower self-concepts than the control group;
2. Regarded grades as even less important at the end

of treatment than at the beginning;

3. Reflected a trend, though insignificant, toward a lower GPA than the control group;
4. Perceived teacher's evaluations of them as even lower than at the beginning of treatment; and
5. Became generally more secure.

There are several interesting speculations which may be useful in guiding future research of this kind. The experimental group was introduced to a friendly, but non-school-related adult who professed a great interest in them as individuals and in their academic efforts. He not only wanted to assist, but was agressive in doing so. That is, unlike the majority of student-counselor relationships, he asked to see them and even called them out of class.

When a "counselor" suddenly comes into the lives of a group of low self-concept, low-achieving youngsters and begins a counseling program with them, perhaps what was intended as a low-pressure, non-threatening relationship was perceived as quite the opposite. Perhaps it seemed to the youngsters like a high-pressure operation and thus violated a current psychological theory,[2] which suggests that the greater the felt pressure to change the less change there is likely to be. In a sense, perhaps the counseling program unwittingly reinforced what they already believed about themselves ("I'm dumb, I can't") through the introduction of a person coming in from the outside and suggesting in both direct and subtle ways that they were capable of doing better. This may point to the inadvisability of several counseling strategies. Number one, it may suggest that homogeneously grouping low self-concept, low-achieving youngsters together for counseling purposes is unwise if for no other reason than it makes their "raison d'etre" blatantly and, perhaps, painfully, obvious. Number two, it may suggest the futility of an outsider moving too directly into a youngster's life space. With these thoughts in mind, the counseling program in the tenth grade was less intensive, more individualistic, and on a much more informal basis. The results of this effort will be reported in a follow-up study.[3]

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[2] Leon Festinger and James M. Carlsmith, "Cognitive Consequences of Forced Compliance," The Journal of Abnormal and Social Psychology, LVIII (1959), 203-210.

Even though there were no significant differences in predicted directions between the control and treatment groups in this experiment, there are several reasons why one should not be too hasty to abandon counseling as a strategy for self-concept enhancement and thereby enhanced achievement. First, the counselor was not a member of the school staff and even though he was perceived as a counselor, he was nonetheless perceived as an outsider. This may have had the effect of making these youngsters feel even more apart, more "different." Perhaps a program for self-concept enhancement could be started by regular school counselors which would lead to differing results.

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[3] Brookover, Hamachek, and Erickson, op. cit.

Secondly, the variation among counselors is so great that one study employing one counselor should not be used to determine the effectiveness of counseling as a technique for self-concept enhancement.

Thirdly, it can be said that it is difficult to overcome the influence which parents appear to have on the academic effort of low-achieving, low-self-concept students.

This study does suggest, however, that replication is in order prior to any definite conclusions.

CHAPTER VI

THE LONGITUDINAL STUDY

The analysis follows the theoretical development presented in Chapter I. The first major section deals with relationships between perceived evaluations and self-concept; the second with the relationship between self-concept and achievement; the third with self-concept as an intervening variable; and finally, the stability of student responses on each of the major variables.

The Major Hypotheses:

1. **Student perception of the evaluations of academic ability held by significant others is associated with self-concept of ability (at each grade level).**
2. **Change or stability over time in the perceived evaluations of significant others is associated with change or stability over time in self-concept of ability.**
3. **Student self-concept of ability is associated with academic achievement (at each grade level).**
4. **Change or stability over time in self-concept of academic ability is associated with change or stability over time in academic achievement.**
5. **Self-concept of ability is an intervening variable between perceived evaluations of others and academic achievement.**
6. **Self-concept of ability in a specific school subject is less stable than is general self-concept of academic ability.**

In addition to the above hypotheses the following questions were asked:

> What is the relationship of self-concept of ability to other relevant variables (academic achievement, the evaluations of significant others, and socio-economic class) in each year of the longitudinal study? How constant are these associations? What trends or patterns if any, are discernible? Is there a difference in the stability of these relationships under varying conditions of student achievement level, school climate (i.e. differences in junior and senior high schools attended), subject matter area, or socio-economic class?
>
> Do students as a group tend to maintain the same level of self-concept of ability at each grade level? What patterns, if any, are apparent in the perceptions of parents, friends, and teachers over the longitudinal period?

Procedures*

Population

The longitudinal population consisted of 463 subjects, 204 males and 259 females. This population included all of the Caucasian students in an urban school system on whom complete data was available and the criteria of "regular student" indicated in Chapter II was maintained.

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*See Chapter II for a more complete report of the design and instruments.

Variables[1]

The major variables studied were (1) perceived evaluations of academic ability by significant others (parents, teachers and/or friends); (2) self-concept of academic ability; and (3) academic achievement (grade point average). Other variables included in the analysis were socio-economic status, memory of past performance, memory of past grades, measured intelligence, student's identification of those people considered important in their lives, and school attended.

Stability of Variables - As a further index of the stability of student response on each major variable under investigation, means and standard deviations were reported for each grade level. In addition, the proportion of students who indicated various categories of people as significant others at each grade level was also determined. Since, however, the data on significant others includes only 8th, 9th, and 10th grades, while 11th and 12th grade data are being gathered in a continuing study,[2] no statistical analysis for patterns or trends will be presented in this report.

Analysis of Stability of Relationships - Analysis of stability of relationships involved the use of product moment correlations. Examination of the constancy of correlations was made between the relevant variables to determine: (1) magnitudes of these associations at varying times and under varying conditions during the longitudinal period; and (2) patterns in these associations. Appropriate tests were made (depending upon dependent or independent data) to determine if there were significant differences in correlations. Also, the correlations were plotted year by year in graphs.

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[1] The measurement instruments, their descriptions, reliabilities, etc., are described more fully in Chapter II and in the Appendices.

[2] Brookover, Hamachek, and Erickson, op. cit.

Analysis of Changes - Chi-square analysis was employed to determine whether change in one variable was associated with change in another variable. Subjects were divided into categories of positive, negative or no change based upon standard errors of measurement as calculated in the 8th grade. These standard errors are as follows:

Variable	Approximated Standard Error of Measurement
Grade Point Average	0.33
General Self-Concept of Ability	2.00
Perceived Parental Evaluation	2.00
Total of 3 Significant Others . . . . Perceived Evaluations	5.00

Analysis of Perceived Evaluations and Self-Concept

Hypothesis One: Student perception of the evaluations of academic ability by significant others is associated with self-concept of ability.

As indicated in Table 6.1, the above basic hypothesis is accepted at all grade levels. The correlations between perceived evaluations of parents, teachers and friends and self-concept of ability were all significant at the .01 level, and varied from .60 to .82.

Table 6.1

CORRELATIONS BETWEEN GENERAL SELF-CONCEPT OF ABILITY AND THE PERCEIVED EVALUATIONS OF ACADEMIC ABILITY BY OTHERS OVER THREE SCHOOL YEARS* (MALES AND FEMALES COMBINED)

Longitudinal Study

Item	General Self-Concept of Ability		
	8th Grade	9th Grade	10th Grade
Perceived Parental Evaluation	↑ .710 ↕	.754	↑ .736 ↕
Perceived Friends Evaluation	.599 ⟷ ↕	.733	.768 ↕
Perceived Teachers Evaluation	↓ .670 ⟷	.757 ⟷	↓ .684
Total Perceived Evaluation of Others	.745 ⟵	.783	⟶ .823

*Data on 7th graders not available
All r's are significant beyond .01 level, H_1 is accepted.
⟷ indicates significant differences (.05) between correlations

Trends:

1. There is a tendency for the relationship between student's perception of parent's evaluations and self-concept to remain

consistently high (r's .71, .75 and .74) from the 8th through the 10th grade.

2. The relationship between student perception of friends and self-concept increased significantly (.05 level) from 8th to 9th grade and there was a slight increase from the 9th to the 10th grade.

3. The correlation between student perception of parent's evaluations and self-concept was higher than the correlation of perception of friends and self-concept in the 8th grade. In the 10th grade, however, the perception of friend's evaluations correlated significantly higher with self-concept than did perception of parent's evaluations.

4. Only in the 9th grade were there no differences in correlations of self-concept with the perceptions of parents, teachers and friends.

Data being collected in the 11th and 12th grade will indicate whether these trends continue. The evidence, at this point, suggests that the influence of peers is increasing while parental influence is remaining constant.

Specific Self-Concept - As indicated in Table 6.2 the correlations between self-concepts of academic ability in specific school subjects and perceived parental evaluations of academic ability in these subjects, (eighth, ninth and tenth grades,) tend to be consistent over the three year period.

Table 6.2

CORRELATIONS BETWEEN SELF-CONCEPTS IN SPECIFIC SCHOOL SUBJECTS AND PERCEIVED PARENTAL EVALUATION IN THE SAME SCHOOL SUBJECTS

Longitudinal Study

Variables	Perceived Parental Evaluation		
	8th	9th	10th
Self-Concept in Math	.564	.577	.573
Self-Concept in English	.516	.565	.544
Self-Concept in Social Studies	.589	.548	.585
Self-Concept in Science	.554	.617	.569

No differences in r's (.05 level) within or between each grade level

Differences by Sex - As shown in Table 6.3, there were some variations in correlation associated with sex.

Table 6.3

CORRELATIONS BETWEEN GENERAL SELF-CONCEPT OF ABILITY AND THE PERCEIVED EVALUATIONS OF OTHERS OVER THREE SCHOOL YEARS, BY SEX*

Longitudinal Study

Variable	General Self-Concept of Ability		
	8th Grade	9th Grade	10th Grade
Perc'd Parent Evaluation			
Male	↑ .643 ⟷	↑ .705	↑ .703
Female	↓ .779	↓ .798	↓ .776
Perc'd Friends Evaluation			
Male	.629 ⟷	↑ .701 ⟷	.772
Female	.587 ⟷	↓ .772	.770
Perc'd Teacher Evaluation			
Male	↑ .612 ⟷	↑ .714 ⟷	↑ .764
Female	↓ .724 ⟷	↓ .801 ⟷	↓ .618
Total Perc'd Evaluation of 3 Sig. Others			
Male	↑ .718 ⟷	.780 ⟷	.835
Female	↓ .780	.788	.817

*Data on 7th graders not available
Males = 204, Females = 259
All r's are significant beyond .001 level.
—— Indicates significant differences (.05 level) between correlations

(1) There were no significant differences in the correlations by grade level for females between general self-concept of ability and perceived parental evaluations. Among males, however, correlations between general self-concept

of ability and perceived parental evaluations increased significantly from the 8th to the 9th grade. Furthermore, at each grade level, correlations between perceived parental evaluation and self-concept of ability were significantly lower (.05 level) for males than for females.

(2) The association of perceived friend's evaluations with self-concept was higher for ninth grade females than for males. In the eighth grade and in the 10th grade there were no significant differences by sex, in this relationship. Correlations for males, however, increased significantly from the 8th to the 9th and from the 9th to the 10th grades.

(3) The correlations of perceived teacher's evaluations with general self-concept of ability among females varied significantly from year to year, but there were no discernible trends. On the other hand, significantly higher correlations were found among males at each succeeding grade level.

(4) Correlations between the total perceived evaluations of 3 significant others (parent, teacher, friend) and self-concept of ability increased significantly from the 8th to 9th and 9th to 10th grades for the males. Male-female differences in these correlations were significant only at the 8th grade level, the correlations there being higher for females.

In summary, significant and continuous differences appeared between the sexes in the correlations between general self-concept of ability and perceived parental evaluations, and general self-concept of ability and perceived teacher evaluations. While the relationship between perceived parental and teacher evaluations and self-concept is generally higher for girls than for boys, an inversion is noted at the 10th grade level. Subsequent analysis for the 11th and 12th grades will enable determination of whether or not these trends continue.

Changes in Perceived Evaluations Associated with Changes in Self-Concept

Hypothesis Two: Change or stability over time in the perceived evaluations of significant others is associated with parallel change or stability in self-concept of ability.

The above basic hypothesis was tested by an analysis of change and stability of response occurring over one-year and two-year periods.* Examination of changes over different periods of time, allowed for a control of the relevance of "time" as a factor in the association of changes as well as further confirming the hypothesis of association. Four tests of Hypothesis

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*Seventh grade data on the perceived evaluations of others was not available so that three year time periods for analysis were not possible. A more complete analysis is being conducted by Brookover, Hamachek, Erickson and Joiner, op. cit.

Two were made by chi-square analysis. Hypothesis two was accepted in every case (see Tables 6.4 and 6.5).

Table 6.4

CHANGES IN SELF-CONCEPT ASSOCIATED WITH CHANGES IN PERCEIVED PARENTAL EVALUATIONS

Longitudinal Study

Changes →		Changes in Perceived Parental Evaluation 8th to 9th Grade			
		-	0	+	Totals
Changes in Self-Concept 8th to 9th Grade	-	58	44	18	120
	0	50	112	52	214
	+	11	61	57	129
	Totals	119	217	127	463

$X^2 = 63.95$ 4d.f. Sig. beyond .001 level

		8th to 10th Grade			
Changes in Self-Concept 8th to 10th Grade	-	70	68	20	158
	0	47	82	42	171
	+	18	54	62	134
	Totals	135	204	124	463

$X^2 = 56.08$ 4d.f. Sig. beyond .001 level

Change or stability in the total perceived evaluation of three significant others (parents, peers, teachers) was also significantly associated with change or stability in self-concept of academic ability (see Table 6.5). This evidence indicates that a student's perception of the evaluations of his academic ability, made by his significant others, is reflected in his self-evaluation of academic ability.

Table 6.5

CHANGES IN PERCEIVED EVALUATION OF THREE SIGNIFICANT OTHERS ASSOCIATED WITH CHANGES IN SELF-CONCEPT

Longitudinal Study

↓ Changes →		Changes in Perceived Evaluations of 3 Significant Others 8th to 9th Grade			
		-	0	+	Totals
Changes in Self-Concept 8th to 9th Grade	-	47	62	11	120
	0	32	152	30	214
	+	11	64	54	129
	Totals	90	278	95	463

$X^2 = 82.78$ 4d.f. Sig. beyond .001 level

		8th to 10th Grade			
Changes in Self-Concept 8th to 10th Grade	-	82	64	12	158
	0	43	102	26	171
	+	16	59	59	134
	Totals	141	225	97	463

$X^2 = 97.74$ 4d.f. Sig. beyond .001 level

Analysis of Association Between Self-Concept and Achievement

Hypothesis Three: Student self-concept of ability is associated with academic achievement.

As indicated in Table 6.6, all correlations between general self-concepts of academic ability and total grade point average at each grade level were consistently above .52. Therefore, the above basic hypothesis is accepted.

Table 6.6

CORRELATIONS OF GENERAL AND SPECIFIC SELF-CONCEPTS OF ACADEMIC ABILITY WITH GRADE POINT AVERAGE OVER A FOUR YEAR PERIOD, SEVENTH THROUGH TENTH GRADES

Longitudinal Study

	Correlations[1] with Total Grade-Point Average			
Variables by Grade Level	7th r	8th r	9th r	10th r
General Self-Concept-Ability[2]	.601	.600	.599	.528
Self-Concept in Math	.440	.551	.399	.432
Self-Concept in English	.516	.497	.480	.433
Self-Concept in Social Studies	.557	.531	.484	.448
Self-Concept in Science	.483	.488	.412	.297

[1] All r's significantly > zero, .01 level.

[2] General self-concept correlations were significantly higher (.05 level) than any specific subject matter self-concept correlations for each grade level.

(1) Over the longitudinal period general self-concept of ability had relatively high associations with grade point

average (r's from .601 to .528).

(2) There was no significant difference in correlation from the seventh through the ninth grades. In the tenth grade, however, a significantly lower correlation occurred (.05 level). Whether this marks a downward trend in the relationship of grade point average and general self-concept of ability remains to be determined in follow up studies.

(3) Table 6.6 also shows correlations between specific subject matter self-concepts of ability and total grade point average. These are less stable than the relationships between general self-concept of ability and grade point average. The 10th grade correlation, between self-concept in science and achievement was lower than all others. This may be due to major changes in the content of science class work in the 10th grade in senior high school as compared with science study in junior high school. The resolution of this question, however, must await further study.

(4) An analysis of correlations between achievement and general self-concept of ability by sex revealed a small difference in this population in the 7th grade, but no differences in the 8th, 9th, or 10th grade (not reported in tables).

Changes in Self-Concept Associated with Changes in Achievement

Hypothesis Four: Change or stability in self-concept is associated with parallel change or stability in academic achievement

The hypothesis that changes in general self-concept of academic ability are associated with changes in academic performance is basic to the theoretical orientation of this study. Comparison of the relative changes in these variables over one, two, and three year periods allowed for an examination of the relevance of the time factor for changes in one variable to be accompanied by a change in the other.

Table 6.7 indicates the relative association of change or stability in general self-concept of ability associated with parallel change or stability in achievement over one, two, and three year periods.

Table 6.7

CHANGES IN SELF-CONCEPT OF ABILITY ASSOCIATED WITH CHANGES IN GRADE POINT AVERAGE

Longitudinal Study

↓ Changes →		Changes in GPA 7th to 8th Grade			
		-	0	+	Totals
	-	20	59	17	96
Changes in Self-Concept 7th to 8th Grade	0	60	150	61	271
	+	16	53	27	96
	Totals	96	262	105	463
$X^2 = 3.84$ 4d.f. Not sig. at .05 level					
		7th to 9th Grade			
	-	20	54	28	102
Changes in Self-Concept 7th to 9th Grade	0	53	118	90	261
	+	16	53	31	100
	Totals	89	225	149	463
$X^2 = 3.29$ 4d.f. Not sig. at .05 level					
		7th to 10th Grade			
	-	28	47	32	107
Changes in Self-Concept 7th to 10th Grade	0	36	89	107	232
	+	19	44	61	124
	Totals	83	180	200	463
$X^2 = 12.22$ 4d.f. Sig. beyond .01 level					

Significant association is not evident in the one-year or two-year period. Analysis of change over a three-year period, seventh to tenth grades, however, indicates that change in self-concept is associated with a similar change in grade point average. In effect, significant associations in changes in self-concept and academic achievement do not occur over a relatively short time. It would appear that change in self-concept is followed by change in academic achievement, but can only be observed over relatively longer periods of time.

Self-Concept and Achievement Under Varying Conditions of School Climate, Socio-Economic Status, Memory of Past Performance, Memory of Past Evaluations, and Past Achievement

School Climate - To determine whether changes in self-concept and achievement vary according to junior and senior high schools attended, chi-square analysis was conducted. The X^2 values indicated no significant associations (.05 level) between changes in grade point average obtained and school attended nor between changes in self-concept and school attended (see Tables 6.8 and 6.9). These results are evidence that changes which occur in self-concept and achievement are not dependent upon school attended.

Table 6.8

CHI-SQUARE ANALYSIS OF ASSOCIATION OF SCHOOL ATTENDED WITH CHANGES IN SELF-CONCEPT

Longitudinal Study

↓ Changes →		School Attended			
		8th Grade			
		A	B	C	Totals
	-	31	27	40	98
Changes in Self-Concept 7th to 8th Grade	0	71	83	115	269
	+	31	25	40	96
	Totals	133	135	195	463
$X^2 = 3.79$ 4d.f. Not Sig. at .05 level					
		9th Grade			
	-	28	31	43	102
Changes in Self-Concept 7th to 9th Grade	0	69	83	109	261
	+	33	23	44	100
	Totals	130	137	196	463
$X^2 = 3.13$ 4d.f. Not Sig. at .05 level					
		10th Grade			
	-	53	34	20	107
Changes in Self-Concept 7th to 10th Grade	0	113	81	33	232
	+	57	41	26	124
	Totals	223	156	84	463
$X^2 = 1.37$ 4d.f. Not Sig. at .05 level					

Table 6.9

CHI-SQUARE ANALYSIS OF ASSOCIATION OF SCHOOL ATTENDED WITH CHANGES IN GRADE POINT AVERAGE

Longitudinal Study

↓ Changes →		School Attended 8th Grade			
		A	B	C	Totals
	-	30	31	37	98
Changes in Self-Concept 7th to 8th Grade	0	74	81	105	260
	+	29	23	53	105
	Totals	133	135	194	463

$X^2 = 5.23$ 4d.f. Not Sig. at .05 level

		9th Grade			
	-	27	29	33	89
Changes in Self-Concept 7th to 9th Grade	0	58	73	94	225
	+	45	35	69	149
	Totals	130	137	196	463

$X^2 = 4.73$ 4d.f. Not Sig. at .05 level

		10th Grade			
	-	43	29	11	83
Changes in Self-Concept 7th to 10th Grade	0	94	53	33	180
	+	86	74	40	200
	Totals	223	156	84	463

$X^2 = 5.05$ 4d.f. Not Sig. at .05 level

Socio-Economic Status - The contention that Caucasian children from lower socio-economic groups have lower self-concepts of ability than those from higher statuses was not supported. Consistently low correlations between socio-economic status and self-concept of ability over the four-year period are reported in Table 6.10. Furthermore, low correlations between grade point average and socio-economic status showed a slightly declining pattern from the seventh to the tenth grade (i.e. r = .321 down to r = .247).

Table 6.10

CORRELATIONS BETWEEN SOCIO-ECONOMIC STATUS,*
SELF-CONCEPT AND ACADEMIC ACHIEVEMENT,
SEVENTH THROUGH TENTH GRADES

Longitudinal Study

Factors	Socio-Economic Status			
	7th	8th	9th	10th
Grade Point Average	.321	.291	.270	.247
Self-Concept of Ability	.255	.277	.271	.293

*Socio-economic status assessed by a scale developed by Otis Dudley Duncan. See Reiss Occupation and Social Status (Glencoe, Ill: Free Press, 1961).

Chi-square analysis reported in Table 6.11 indicates that changes in self-concept of ability from the seventh through the tenth grades are not dependent on socio-economic status.

Table 6.11

CHI-SQUARE ANALYSIS OF ASSOCIATION BETWEEN CHANGES
IN SELF-CONCEPT AND SOCIO-ECONOMIC STATUS,
SEVENTH TO TENTH GRADE

Longitudinal Study

Item		Socio-Economic Status Category*							Totals
		1	2	3	4	5	6	7	
Changes in Self-Concept	-	24	16	21	11	10	12	13	107
	0	54	28	34	34	28	36	18	232
	+	40	12	26	11	15	13	7	124
	Totals	118	56	81	56	53	61	38	463

*Status categories range from 1 = lower to 7 = upper.
$X^2 = 14.78$ 12d.f. Not Sig. at .05 level

Memory of Past Grades and Performance - Is an individual's self-concept of ability merely a reflection of his memory of his past performance? In an attempt to resolve this, the students were asked two questions.

1. What grades do you remember getting in school before tenth grade? (Memory of past evaluations)
2. How good was your school work before tenth grade? (Memory of past performance)

The correlations between responses of the longitudinal group for these two questions and self-concept of ability scores (10th grade) were .597 and .513, respectively (Table 6.12). Thus, while memory for past performance showed a positive and significant relationship to the self-concept scores, as would be expected, the magnitude of these correlations leaves no doubt that factors other than memory of past performance or memory of past grades functions in the perception one holds of his ability as an achiever (see Table 6.12).

Table 6.12

THE EFFECT OF MEMORY FOR PAST PERFORMANCE AND GRADES PARTIALLED OUT OF CORRELATION BETWEEN SELF-CONCEPT OF ABILITY AND GRADE POINT AVERAGE

Longitudinal Study

Variables
1. Tenth Grade Self-Concept of Ability
2. 10th (Jan.) G.P.A.
3. Memory of Past Grades
4. Memory of Past Level of Performance

zero order	first order	second order
$r_{12} = .528$		
$r_{13} = .597$	$r_{12.3} = .262$	
$r_{14} = .513$	$r_{12.4} = .407$	$r_{12.34} = .275$
$r_{23} = .604$	$r_{23.4} = .492$	
$r_{24} = .408$	$r_{13.4} = .377$	
$r_{34} = .740$		

There was no significant difference between the correlation of self-concept with grade point average and the correlation of self-concept with memory for past performance. When memory for past performance and memory of past grades with grade point average is partialled out of the relationships between self-concept and grade point average, it can be noted that this correlation reduces to .275. Memory for how good one's past performance, however, reduced the correlation of self-concept to GPA only from .528 to .407. Hence, it can be concluded that self-concept of ability is not merely a reflection of memory of past performance. It is theoretically relevant to note that memory of how others evaluated performance (memory for grades) reduced the association of self-concept to achievement more than did memory of past performance. The perception of others evaluation in the form of grades, is apparently a greater factor in self assessment than appraisal of past performance.

Previous Achievement - As shown in Table 6.13 it was also possible to examine the effect of interim achievement upon the stability of self-concept of academic ability (i.e. achievement in the 8th grade partialled out of the relationship of 7th grade self-concept to 9th grade self-concept). The correlation between seventh grade self-concept of ability and ninth grade self-concept is .64. When the relationship of 8th grade achievement on 9th grade self-concept of ability was partialled out, seventh grade self-concept still had a high relationship (r = .44) to 9th grade self-concept. Thus it is concluded that the association between current self-concept of ability and past self-concept is not accounted for by interim performance.

Table 6.13

THE EFFECT OF INTERIM GRADE POINT ACHIEVEMENT UPON THE CONSTANCY OF SELF-CONCEPT OF ABILITY CORRELATION WITH ACADEMIC ACHIEVEMENT
(Partial Correlations)
Longitudinal Study

Variables:
1. Seventh Grade Self-Concept of Ability
2. Eighth Grade Grade Point Average
3. Ninth Grade Self-Concept of Ability

zero order	first order
$r_{13} = .6386$	
$r_{12} = .5578$	$r_{13.2} = .4352$
$r_{23} = .6564$	

Summary: Self-Concept and Achievement

1. There was a relatively high relationship between general self-concept of achievement at each grade level. There was a significant decline in the relationship of general self-concept to academic achievement from 9th to 10th grade. Whether

this is the beginning of a trend will be determined in follow up study.

2. Self-concept of ability in specific school subjects was less stable in its relationship to total academic achievement than general self-concept of ability.

3. Change or stability in self-concept of ability was associated with change or stability in achievement level when analyzed over the seventh to tenth grade period of time. Significant associations were not evident during shorter periods of time.

4. There were no consistent differences by sex in the relationship of academic achievement to self-concept of ability.

5. Socio-economic class, as indicated by correlations, had a low relationship to both self-concept of ability and academic achievement. Changes in self-concept of ability were not associated with social class status.

6. There was no evidence that patterns of change in self-concept or achievement are dependent on the junior or senior high school attended.

7. Analysis of the data presented in this study does not warrant the assumption that self-concept of academic ability merely reflects past achievement or memory of past performance.

In summary, only among the correlations of perceived parental evaluation with general self-concept were there significant and continuous differences by sex. The relationship of perceived evaluations and self-concept is greater for females than for males.

Analysis of Self-Concept as an Intervening Variable

From the general hypothesis that self-concept intervened between the perceived evaluations of others and academic achievement the following research hypotheses were developed:*

H_1: The magnitude of the correlation between the perceived evaluations of others (a) and self-concept of academic ability (b) is greater than the correlation between self-concept of ability (b) and academic achievement (c).

H: $r_{ab} > r_{bc}$

H_2: The magnitude of the correlation between self-concept of academic ability (b) and academic achievement (c) is greater than the correlation between perceived evaluations of others (a) and academic achievement (c).

H: $r_{bc} > r_{ac}$

H_3: The association of change in perceived evaluations (A) with change in self-concept (B) is greater than the association of change in perceived evaluations (A) with change in achievement (C).

H: assoc. changes A with B > A with C

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*See Chapter II for a complete statement of the rationale.

H_4: The association of change in self-concept (B) with change in achievement (C) is greater than the association of change in perceived evaluations of others (A) with change in achievement (C).

H: assoc. changes B with C > A with C

Perceived evaluations of academic ability by significant others was more highly correlated with self-concept of academic ability over the four year period than any other variable. These correlations between general self-concept of ability and the perceived evaluations of ability by parents, teachers and friends ranged from .59 - .83 over the three year period. Thus, to repeat, the theory that the perceived evaluations of others functions as a central factor in the evaluations one holds of one's self is substantially supported. In fact the relation between self-concept of ability and the perceived evaluations of ability by three significant others is consistently high and greater than the correlation between any combination of variables studied. Furthermore, as shown in Table 6.14, the correlations between self-concept and the total perceived evaluations of others was consistently and significantly higher (.01 level) than the correlations between self-concept and grade point average. Only one correlation, between perceived friends evaluation and self-concept in the 8th grade, was not greater in magnitude than the correlation of self-concept with grade point average.

Table 6.14

DIFFERENCES BETWEEN CORRELATIONS OF GENERAL SELF-CONCEPT OF ABILITY WITH ACHIEVEMENT AND CORRELATIONS OF GENERAL SELF-CONCEPT OF ABILITY WITH PERCEIVED EVALUATIONS OF ABILITY BY SIGNIFICANT OTHERS

Longitudinal Study

Grade (N = 463)	Gen. Self-Concept and G.P.A. r	Gen. Self-Concept and Perceived Evaluations of: Parents r	Friends r	Teachers r	Total all 3 Others r
8th Grade	.600	.710*	.599	.670*	.745*
9th Grade	.599	.754*	.733*	.757*	.783*
10th Grade	.528	.736*	.769*	.684*	.823*

*Significantly different (.05 level) from "r's" between Self-Concept and GPA for grade level ("t" test, correlated data)

It was also found, as was expected, that all observed correlations of self-concept with achievement were higher than correlations of perceived evaluations with achievement (Table 6.15). The differences between these correlations were significant (.05) in the 8th and 9th grades. In the 10th grade they were in the hypothesized direction but not significantly different. Eleventh and twelfth grade data must be analyzed before determining whether or not this pattern of association continues.

Table 6.15

DIFFERENCES BETWEEN CORRELATIONS OF SELF-CONCEPT OF ABILITY WITH ACHIEVEMENT AND CORRELATIONS OF PERCEIVED EVALUATIONS OF OTHERS WITH ACHIEVEMENT

Longitudinal Study

Grade (N = 463)	Gen. Self-Concept and G.P.A.	G.P.A. and Perceived Evaluations of:		
	r	Parents r	Friends r	Teachers r
8th Grade	.600	.541*	.438*	.514*
9th Grade	.599	.554*	.541*	.550*
10th Grade	.528	.501	.499	.478

*Significantly different (.05 level) from "r's" between Self-Concept and GPA for grade level ("t" tests correlated data)

As indicated in Tables 6.16 and 6.17, changes in the total perceived evaluations of others or changes in perceived parental evaluations were not significantly associated (.05 level) with changes in GPA over one and two year periods. Considering that changes in self-concept were related to changes in both achievement and perceived evaluations of others and that changes in perceived evaluations were only associated with changes in GPA in one of 4 tests, the general hypothesis that self-concept is an intervening factor is given empirical credence. This conforms to the previous finding that correlations between perceived evaluations and achievement were of a lower magnitude than were correlations between perceived evaluations and self-concept.

Table 6.16

CHI-SQUARE ANALYSIS OF CHANGES IN TOTAL PERCEIVED EVALUATIONS OF THREE SIGNIFICANT OTHERS ASSOCIATED WITH GRADE POINT AVERAGE

Longitudinal Study

↓ Changes →		Changes in GPA 8th to 9th Grades -	0	+	Totals
Changes in Total Perceived Evaluation 8th to 9th Grades	-	24	41	25	90
	0	86	134	58	278
	+	31	49	15	95
	Totals	141	224	98	463
$X^2 = 4.11$ 4d.f. Not Sig. at .05 level					
		8th to 10th Grades			
Changes in Total Perceived Evaluation 8th to 10th Grades	-	61	53	27	141
	0	98	93	34	225
	+	37	38	22	97
	Totals	196	184	83	463
$X^2 = 3.15$ 4d.f. Not Sig. at .05 level					

Table 6.17

CHANGE IN PERCEIVED PARENTAL EVALUATION
ASSOCIATED WITH CHANGE IN GRADE POINT AVERAGE

Longitudinal Study

Changes		Changes in GPA 8th to 9th Grades			
		-	0	+	Totals
Changes in Perceived Parental Evaluation 8th to 9th Grades	-	27	64	28	119
	0	71	99	47	217
	+	43	61	23	127
	Totals	141	224	98	463

$X^2 = 5.16$ 4d.f. Not Sig. at .05 level

		8th to 10th Grades			
Changes in Perceived Parental Evaluation 8th to 10th Grades	-	60	46	29	135
	0	93	87	24	204
	+	43	51	30	124
	Totals	196	184	83	463

$X^2 = 11.94$ 4d.f. Sig. at .05 level

Summary: Self-Concept of Ability as an Intervening Variable

The analyses in this section support all four hypotheses which were derived from the general hypothesis that self-concept of ability is an intervening variable between perceived evaluation of others and achievement. Both the differences in magnitude of the correlation and the patterns of change in the three variables support the general hypothesis. The differences in correlation are all in the hypothesized direction and in most instances significantly different at the .05 level. The absence of a significant difference at the 10th grade between the correlation of self-concept with achievement and the correlation of perceived evaluation with achievement leaves some doubt about the persistence of this difference. There is no evidence however, to support the contention that self-concept is an unnecessary variable in the theory, for self-concept of ability is more highly related to achievement than is perceived evaluation of others, and changes in perceived evaluations are not as directly related to changes in achievement as are changes in self-concept.

The general conclusion, therefore, is that self-concept of academic ability is an intervening factor between the perceived evaluations of others and performance.

Analysis of the Stability of Student Responses

A basic consideration in the longitudinal study is the relative stability of each of the several variables. In several previous sections of this report reference has been made to the stability and change in the response of the students over time. A summary of the data on the longitudinal population is therefore presented to indicate the stability of response on each variable among the same population of students.

Significant Others

It is commonly assumed that parents become less significant and peers take an added importance in the lives of adolescents. As indicated in Chapter III there was no evidence of decline in the proportion of the total sample that named parents as important. The analysis of the longitudinal data substantiates this finding. Table 6.18 shows percentages of categories of persons named by the longitudinal population as important in their lives and those who are cited as being concerned about how well the student does in school. Similar data for the 11th and 12th grades will be reported subsequently.*

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*Brookover, Hamachek, Erickson, and Joiner, op. cit.

Table 6.18

PERCENTAGE OF THE SAME STUDENTS WHO IN THE EIGHTH, NINTH AND TENTH GRADE NAME AT LEAST ONE PERSON FROM EACH OF THE FOLLOWING CATEGORIES OF SIGNIFICANT OTHERS AS BEING IMPORTANT IN THEIR LIVES AND AS BEING CONCERNED ABOUT HOW WELL THEY DO IN SCHOOL

Longitudinal Study

Significant Others	Sex	8th Grade %		9th Grade %		10th Grade %	
		Important	Concerned	Important	Concerned	Important	Concerned
Parent(s):	Males	96	97	95	95	95	94
	Females	98	98	99	99	98	98
Age Level Relatives:	Males	62	17	59	26	50	17
	Females	80	30	78	37	73	32
Adult Relatives:	Males	30	27	33	37	26	27
	Females	53	48	59	59	44	43
Friends, Same Sex:	Males	42	3	50	6	28	6
	Females	57	14	66	21	45	16
Friends, Opposite Sex:	Males	17	4	19	6	13	7
	Females	33	5	36	12	37	20
Local Adults:	Males	20	3	20	7	14	5
	Females	24	6	31	13	20	9
Teachers in General:	Males	37	57	40	48	22	38
	Females	29	56	31	49	11	37
Other Academic Persons: (Counselors, Coaches, Principals)	Males	7	32	8	27	6	23
	Females	7	37	5	30	4	28
Unclassified: (e.g. God, famous people, dogs, me, etc.)	Males	26	31	20	21	17	26
	Females	21	41	18	29	13	31

As indicated in Table 6.18, parents were consistently named by 95% or more of the students at each grade level, 8 through 10, on the open ended question as being important in their lives. Furthermore, when asked to indicate who was concerned about how well they did in school, parents were again named by 94% or more of the students. This indicates that for nearly all students parents are significant others who occupy a perceived reciprocal relationship to the student in which the academic behavior of the student is a matter of mutual concern. The perception of parental evaluations by the students are, therefore, likely to have an impact on the self-concepts of ability for most students. This conclusion is further substantiated by the research reported in Chapter III where parents intentionally enhanced their children's self-concept of ability.

While students mentioned friends less often than parents as being "important to them" or "who are concerned about how well they do in school," they are mentioned by a significant proportion of the students on the former question. A larger proportion of girls than boys consistently mention friends of both sexes in the 8th, 9th and 10th grades. It should be recognized, however, that the proportion who name friends does not indicate the extent to which friends evaluations are crucial for individual students.

Apparently, from the ninth to the tenth grade the proportion of students who mention teachers as important in their lives decreases (Table 6.18). They also appear to be perceived by a smaller proportion of students as concerned about how well the students do in school each year, 8th to 10th grade. Further analysis is necessary to interpret the significance of these findings. It will be noted that a large proportion of the students mention age level and adult relatives as important to them. The former category includes unmarried brothers and sisters living at home and some cousins. The latter category includes grandparents, uncles-aunts and older brothers and sisters away from home. It will also be noted that other academic personnel are named by a slightly decreasing proportion of the students as "concerned about how well they do in school."

The Perceived Evaluations, Self-Concepts and Academic Achievement of the Student Body at Each Grade Level

The overriding observations to be made from the data in Table 6.17 is that mean self-concepts, perceived evaluations, and achievement are similar each year for the longitudinal population.

This population maintained essentially the same levels of self-concept of ability, perceived evaluations, and grade point average over the longitudinal period. The variances of the variables also remained constant. Therefore, it is concluded that variations and changes in relationships reported in the previous sections are due to individual changes among students and not a reflection of changes of the total longitudinal population. The conclusion of this study, therefore, that there is a relationship between perceived evaluations of ability, self-concept of ability, and academic achievement is given further credence.

Table 6.19

MEANS AND STANDARD DEVIATIONS OF GENERAL AND SPECIFIC SELF-CONCEPTS OF ABILITY, PERCEIVED EVALUATIONS OF OTHERS, AND ACADEMIC ACHIEVEMENT, SEVENTH THROUGH TENTH GRADES FOR 463 STUDENTS IN THE LONGITUDINAL POPULATION

Longitudinal Study

FACTOR	7th Grade		8th Grade		9th Grade		10th Grade	
	$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD
General Self-Concept	28.52	3.81	28.45	4.43	28.56	4.44	28.28	4.43
Self Concept - Math	28.11	5.46	28.05	5.83	27.99	5.50	26.91	6.18
Self Concept - Eng.	27.73	4.54	28.90	5.00	28.57	5.37	28.42	5.07
Self Concept - Soc. St.	26.93	5.34	28.09	5.37	27.78	5.18	28.04	6.10
Self Concept - Science	28.49	5.57	27.96	5.78	27.34	6.03	26.75	6.15
Perc'd. Eval. of Ability by Parents	*	*	19.50	3.20	19.53	3.42	19.24	3.63
Perc'd. Eval. of Ability by Friends	*	*	18.78	3.32	18.66	3.08	18.53	3.26
Perc'd. Eval. of Ability by Teachers	*	*	19.35	3.09	19.31	3.17	18.70	3.50
Total Perc'd. Eval. of 3 Significant Others	*	*	57.64	8.51	57.43	9.03	56.47	9.21
GPA	2.50	.83	2.47	0.86	2.40	.78	2.24	0.80

Summary and Conclusions

Stability and Change - Analysis of the longitudinal data led to the following conclusions concerning the variables under investigation. All of the conclusions are in accordance with the theoretical orientation which guided this study.

1. **Self-concept of ability is a significant factor in achievement at all levels, 7th through 10th grades.**
2. **The perceived evaluations of significant others are a major factor in self-concept of academic ability at each grade level, eight through ten.**
3. **Change or stability in the perceived evaluations of others is associated with change or stability in self-concept.**
4. **Change or stability in self-concept of ability is associated with change or stability in achievement. The associated change in achievement is noted however, only over longer periods of time (3 years).**
5. **Change or stability of perceived evaluations of others is not likely to be associated with change or stability in academic achievement.**
6. **The relationship of self-concept to achievement is not associated with school attended.**
7. **Socio-economic class has a low relationship to self-concept of ability and achievement. Furthermore, the relationship of SES to achievement decreases from grade seven through ten. Change analysis indicated no association between SES and self-concept or achievement.**
8. **Self-concept is not merely a reflection of memory of past performance.**
9. **Self-concepts of ability in specific subjects is less stable in its relationship with total achievement than is general self-concept of ability.**

10. There are no consistent sex differences in the relationships of self-concept with achievement.

11. The only consistent sex difference was that female responses showed a greater relationship between perceived parental and teacher evaluations and self-concept of ability than was the case for males.

12. Self-concept of ability is not merely a reflection of memory of how teachers graded in the past but memory of how teachers graded is more relevant than memory of past performance.

13. Self-concept is not merely a reflection of past achievement.

14. Changes between the associations of one major variable with another, over the longitudinal period are not accounted for by group changes in responses to the measures of these variables at any grade level (e.g. changes in grading standards). The student body tended to show the same distribution on each of the major variables at all grade levels.

In summary, considerable evidence was found for accepting the hypotheses that self-concepts of academic ability derive primarily from perceived evaluations of significant others; and that for most students, self-concept of ability is a functionally limiting factor in their academic achievement. In addition, the findings warrant the view that self-concept intervenes between the perceived evaluations of others and performance.

CHAPTER VII

SUMMARY AND CONCLUSIONS

An increasing demand for persons with high levels of education is in conflict with the view that only a relatively small and constant proportion of students are capable of attaining an advanced education. This investigation has been guided by a less restrictive view of learning - one that does not assume that variations in achievement, for most students, can be attributed primarily to variations in fixed ability. Rather, it is based on the assumption that the academic achievement of most students is functionally limited by self evaluations of their ability to achieve in the academic or school subjects. It is further assumed that self evaluations are not fixed, but depend upon the individual's perceptions of how significant others evaluate him. Thus, it was hypothesized that student achievement would be enhanced by providing students with higher evaluations of their ability to achieve in academic tasks.

Experiments to Enhance Self-Concept and Thereby Achievement

The three experiments involved three different strategies. One experiment dealt with already existing significant others of low achieving students, namely parents. The Parent Experiment succeeded in inducing changes in the two major variables of this study: self-concept of academic ability and academic achievement.

In the other two experiments, an attempt was made to provide a new academic significant other or counteract the impact of significant others on the performance of low achieving students. In the former, frequent contact with a counselor was provided and in the latter, an expert from a university sought to overcome the low evaluations of others. Working directly with the students, the counselor and expert attempted to enhance the evaluations which the low achieving students held of themselves. Neither the expert nor the counseling treatment induced changes in self-concept of academic ability or achievement at the end of the treatment period. The students are being followed through high school, however, to determine if any long term effects are evident.[1]

While the three experiments were not designed for statistical comparisons to be made between treatments, some comparative statements on a non-statistical basis are appropriate.

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[1] The students who participated in the experimental programs are being followed up in the eleventh, and twelfth grades to assess long term effects. See Brookover, Hamachek, Erickson and Joiner, op. cit.

As a whole, some changes in the major variables of the experiment in which changes would theoretically be most likely to occur were effected while no changes occurred where less expected. The findings indicate that attempts to induce changes in self-concept of ability and behavior of students by persons who are not already the academic significant others of the students are not likely to be successful. However, changes in the evaluations held by established significant others (parents) may induce changes in self-concept of ability and changes in academic behavior. This supports the general theory that self evaluation and behavior are affected by interaction with "others" who are important or significant to the actor.

Simply "involving" a group of parents without directing their attention to their responsibility for raising their evaluations and expectations concerning their children is not sufficient condition to raise the self-concept of ability of their children. Thus, it can be said that there is a functional relationship between the type of treatment parents are exposed to and the resulting changes in self-concept of ability of their children. Secondly, the results at the end of the ninth grade indicate that only where there was a significant change in self-concept of ability was there any change in academic performance. This result takes on added significance when it is realized that the total study involved 193 low achievers randomly selected from three junior high schools.

While it was hypothesized that changes would occur in the expert group, there was reason to anticipate that parents would have a greater impact than either the expert or the counselor. This is because the family is a major source of a child's self-concept of ability; parents being the most frequently mentioned significant others among ninth grade students. Therefore, a change in the parent's evaluation of the ability of the child should be reflected in a change in the child's self-concept of ability.

The observed influence of the parents has implications regarding the potential effectiveness of a counselor or "expert." A counselor is likely to have a difficult time if he must counter the evaluations and expectations of a student's significant others. On the other hand, the influence of a counselor who is supported by the student's significant others should be much greater.

If a student believes statements by his counselor that he (the student) is something other than what his parents say, he must then disbelieve his parents. If the student's relationships with his parents are important to him, it is doubtful that he will reject the parent's evaluation in favor of the counselor's. If parents are a major source of the student's self-concept of ability in academic activity, their "credibility" is more likely to be accepted than the counselor's or an expert's. When parents change their expectations of their children, the children either change self estimates or reject their parent's views. Rejection of statements and views of the parents by the child may undermine this relationship which is perceived as important.

Longitudinal Study: Perceived Evaluations Self-Concept, and Achievement

Longitudinal data on the same 463 students from the seventh through tenth grades allowed for a further assessment of the usefulness of "symbolic-interactionism" theory in educational research. Hypothetico-deductive methods and subsequent analysis of the longitudinal data led to the conclusion that there is considerable evidence for accepting the propositions that: 1) self-concepts of academic ability derive primarily from the perceived evaluations of significant others; 2) for most students, self-concept of academic ability is a functionally limiting factor in their academic achievement; and 3) the hypothesis that self-concept intervenes between the evaluations of others and performance.

Analysis of the longitudinal data also led to an acceptance of the following statements which are in accordance with the theoretical orientation of this study.

1. Sex differences in the relationships between self-concept of ability and the perceived evaluations of

others appeared only in reference to parents. In this case, the relationship was higher for females than for males.

2. There were no consistent sex differences in the relationships of self-concept of ability and achievement.

3. An increasing congruency is observed between the perceived evaluations of parents, friends, and teachers from the seventh through the tenth grades.

4. Specific self-concepts in subject matter areas are less stable in predicting achievement than is general self-concept of ability.

5. The relationship of self-concept to achievement is not associated with differences in school attended.

6. Socio-economic status has a low relationship to self-concept of ability and achievement.

7. Self-concept of ability is not merely a reflection of memory of past performance or past achievement.

8. Parents are perceived by more than 90% of the students as academic significant others in all grades, seven through ten.

9. Changes in the associations of self-concept, perceived parental evaluations, and academic achievement over the longitudinal period are not accounted for by group changes at any grade level (e.g. changes in grading standards). The same distributions were evident on each variable at all grade levels.

The findings of both the experimental and longitudinal portion of this study provide substantial support for the social-psychological constructs and propositions of George Herbert Mead and his students. There is, moreover, sufficient evidence to warrant the position that enhancement of self-concept of academic ability should be a crucial concern to educators striving to assist students to achieve at the highest level of achievement possible. Furthermore, strategies to enhance self-concept will be most effective when they involve helping students with low self evaluations to perceive that their parents, or other significant others, have raised their evaluations of them as students.

Implications for Further Research

The success of working with parents to induce changes in children's self-concept of academic ability and thereby their academic achievement suggests that some caution should be exercised in accepting the currently popular view that the adolescent in American society is predominantly influenced by his peers. The success of the Parent Experiment coupled with the findings that parents are perceived as significant others by most students in grades 7 through 9, while friends are so perceived by only a minority, is suggestive of the need for further research in the area of parent-child relationships and family interaction.

Although it could be proposed that research should be done with teachers acting directly to change student's self-concept of ability, the results of the Expert Experiment and the Counseling Experiment promise little in this direction. Although teachers are identified as significant others by a much smaller proportion of students than are parents, teachers may have major impact on those students' self-concept. Research designed to test this is desirable.

To evaluate the relative influence of peers, a study with a similar design using the friends of students could be initiated. A study designed along these lines would provide further information on the relative importance of parents and friends in modifying self-concept of academic ability. In a follow up of this study the relative influence of friendship and parental academic expectations will be examined.[2]

Implications for Education

Perhaps the most important implication of this investigation concerns a theme in educational literature that only a limited number of students are able to learn mathematics, languages, science, and other school subjects to the extent required by our advanced technological society. When it is assumed that only one-fifth to one-fourth of our students have "talent" for high achievement and that little can be done for the rest, the nation's collective achievement and development is unnecessarily hindered. As a result, our society is at a disadvantage in comparison to other societies which assume that nearly all students have the ability to achieve at high levels. The major finding of the total study, that academic achievement can be enhanced by self-concept enhancement, implies that a conception of fixed limits in potential or capacity does not totally account for the low achievement of most students.

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[2] Brookover, Hamachek, Erickson and Joiner, *op. cit.*

Although educators are generally aware of the importance of social factors in learning, educational programs are often based on the assumption that a child has this fixed capacity to learn and that this capacity can be identified, isolated, and measured. Following this line of thinking, if a student has a low intelligence score, then he cannot achieve at a high level. Consequently, many schools provide these students with "less difficult" curricula. In these programs students do not learn more advanced subject matter and a "self-fulfilling prophecy" develops.

If, however, schools were oriented to the theory and findings of this study, programs would be devised to enhance the abilities of all students rather than to limit learning opportunity on the basis of an assumed level of fixed capacity. There would be no early classification of students on the basis of these assumptions and measurements. Programs would be developed to organize the resources of the community, family, and school to enhance the expectations and the self-concept of all students.

This would mean a change in educational programs usually offered students from culturally disadvantaged segments of society and for retarded learners from other parts of the population. At the present time the knowledge or resources to provide this type of talent enhancement on a large scale are not readily available. Differences in language and other social factors may prevent teachers and counselors from becoming significant others and thereby able to modify the expectations and self-concept of these students. If this is the case, innovations in the training of teachers and counselors will be desirable.

Although the total investigation provides only limited evidence for demonstrating conclusively the validity of the basic theoretical propositions, it has shown that role expectations and self-concepts of ability are significant factors in influencing the student's academic performance. Further, it has shown that the student's self-concept of ability can be modified by significant others and thereby affect their achievement. In this context, the investigation has shed some light on strategies for self-concept enhancement. In light of these findings, it is suggested that current educational practices which assume relatively fixed characteristics of students be re-evaluated.

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APPENDIX A

SELF-CONCEPT OF ABILITY SCALES

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SELF-CONCEPT OF ABILITY - GENERAL
(FORM A)
Michigan State University
Bureau of Educational Research

Circle the letter in front of the statement which best answers each question.

1. How do you rate yourself in school ability compared with your close friends?
    - a. I am the best
    - b. I am above average
    - c. I am average
    - d. I am below average
    - e. I am the poorest

2. How do you rate yourself in school ability compared with those in your class at school?
    - a. I am among the best
    - b. I am above average
    - c. I am average
    - d. I am below average
    - e. I am among the poorest

3. Where do you think you would rank in your class in high school?
    - a. among the best
    - b. above average
    - c. average
    - d. below average
    - e. among the poorest

4. Do you think you have the ability to complete college?
    - a. yes, definitely
    - b. yes, probably
    - c. not sure either way
    - d. probably not
    - e. no

5. Where do you think you would rank in your class in college?
    - a. among the best
    - b. above average
    - c. average
    - d. below average
    - e. among the poorest

6. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think it is that you could complete such advanced work?

   a. very likely
   b. somewhat likely
   c. not sure either way
   d. unlikely
   e. most unlikely

7. Forget for a moment how others grade your work. In your own opinion how good do you think your work is?

   a. my work is excellent
   b. my work is good
   c. my work is average
   d. my work is below average
   e. my work is much below average

8. What kind of grades do you think you are capable of getting?

   a. mostly A's
   b. mostly B's
   c. mostly C's
   d. mostly D's
   e. mostly E's

SELF-CONCEPT OF ABILITY - SPECIFIC SUBJECTS
(FORM B)
Michigan State University
Bureau of Educational Research

Put an "X" in the box under the heading which best answers the question. Answer for all four subjects. (You will have one "X" on each line).

1. How do you rate your ability in the following school subjects compared with your close friends?

	among the poorest	below average	average	above average	among the best
Mathematics	☐	☐	☐	☐	☐
English	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

2. How do you rate your ability in the following school subjects compared with those in your class at school?

	among the poorest	below average	average	above average	among the best
Mathematics	☐	☐	☐	☐	☐
English	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

3. Where do you think you would rank in your high school graduating class in the following subjects?

	among the poorest	below average	average	above average	among the best
Mathematics	☐	☐	☐	☐	☐
English	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

4. Do you think you have the ability to do college work in the following subjects?

	no	probably not	not sure either way	yes, probably	yes, definitely
Mathematics	☐	☐	☐	☐	☐
English	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

5. Where do you think you would rank in your college class in the following subjects?

	among the poorest	below average	average	above average	among the best
Mathematics	☐	☐	☐	☐	☐
English	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

6. How likely do you think it is that you could complete advanced work beyond college in the following subjects?

	most unlikely	unlikely	not sure either way	somewhat likely	very likely
Mathematics	☐	☐	☐	☐	☐
English	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

7. Forget for a moment how others grade your work. In your own opinion how good do you think your work is in the following school subjects?

	my work is much below average	my work is below average	my work is average	my work is good	my work is excellent
Mathematics	☐	☐	☐	☐	☐
English	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

8. What kind of grades do you think you are capable of getting in the following subjects?

	mostly E's	mostly D's	mostly C's	mostly B's	mostly A's
Mathematics	☐	☐	☐	☐	☐
English	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

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APPENDIX B

IMPORTANCE OF ACHIEVING HIGHER GRADES THAN OTHERS SCALE

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IMPORTANCE OF ACHIEVING HIGHER GRADES THAN OTHERS

Michigan State University
Bureau of Educational Research

Circle the letter in front of the statement which best answers each question.

1. How important to you are the grades you get in school?

   a. very important
   b. important
   c. not particularly important
   d. grades don't matter to me at all

2. How important is it to you to be high in your class in grades?

   a. very important
   b. important
   c. not particularly important
   d. doesn't matter to me at all

3. How do you feel if you don't do as well in school as you know you can?

   a. feel very badly
   b. feel badly
   c. dont' feel particularly badly
   d. doesn't bother me at all

4. How important is it to you to do better than others in school?

   a. very important
   b. important
   c. not particularly important
   d. doesn't matter to me at all

5. Which statement best describes you?

   a. I like to get better grades than everyone else.
   b. I like to get better grades than almost everyone else.
   c. I like to get about the same grades as everyone else.
   d. I don't care about any particular grades.

6. In your schoolwork do you try to do better than others?

   a. all of the time
   b. most of the time
   c. occasionally
   d. never

7. How important to you are good grades compared with other aspects of school?

   a. good grades are the most important thing in school
   b. good grades are among the important things in school
   c. some other things in school are more important
   d. good grades don't matter to me at all

APPENDIX C

PERCEIVED EVALUATIONS OF STUDENT'S ACADEMIC ABILITY BY OTHERS SCALES

Section Page

1. Parents. 237
2. Best Friend 238
3. Teacher 239

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Please answer the following questions as you think your PARENTS would answer them. If you are not living with your parents answer for the family with whom you are living.

Circle the letter in front of the statement that best answers each question.

1. **How do you think your PARENTS would rate your school ability compared with other students your age?**

   a. among the best
   b. above average
   c. average
   d. below average

2. **Where do you think your PARENTS would say you would rank in your high school graduating class?**

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

3. **Do you think that your PARENTS would say you have the ability to complete college?**

   a. yes, definitely
   b. yes, probably
   c. not sure either way
   d. probably not
   e. definitely not

4. **In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think your PARENTS would say it is that you could complete such advanced work?**

5. **What kind of grades do you think your PARENTS would say you are capable of getting in general?**

   a. mostly A's
   b. mostly B's
   c. mostly C's
   d. mostly D's
   e. mostly E's

Go on to the next page

Think about your closest friend at school. Now answer the following questions as you think this FRIEND would answer them.

Circle the letter in front of the statement that best answers each question.

1. How do you think this FRIEND would rate your school ability compared with other students your age?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

2. Where do you think this FRIEND would say you would rank in your high school graduating class?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

3. Do you think that this FRIEND would say you have the ability to complete college?

   a. yes, definitely
   b. yes, probably
   c. not sure either way
   d. probably not
   e. definitely not

4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think this FRIEND would say it is that you could complete such advanced work?

   a. very likely
   b. somewhat likely
   c. not sure either way
   d. somewhat unlikely
   e. very unlikely

5. What kind of grades do you think this FRIEND would say you are capable of getting in general?

   a. mostly A's
   b. mostly B's
   c. mostly C's
   d. mostly D's
   e. mostly E's

Go on to the next page

Think about your favorite teacher - the one you like best; the one you feel is most concerned about your schoolwork. Now answer the following questions as you think this TEACHER would answer them.

Circle the letter in front of the statement which best answers each question.

1. How do you think this TEACHER would rate your school ability compared with other students your age?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

2. Where do you think this TEACHER would say you would rank in your high school graduating class?

   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

3. Do you think that this TEACHER would say you have the ability to complete college?

   a. yes, definitely
   b. yes, probably
   c. not sure either way
   d. probably not
   e. definitely not

4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think this TEACHER would say it is that you could complete such advanced work?

   a. very likely
   b. somewhat likely
   c. not sure either way
   d. somewhat unlikely
   e. very unlikely

5. What kind of grades do you think this TEACHER would say you are capable of getting in general?

   a. mostly A's
   b. mostly B's
   c. mostly C's
   d. mostly D's
   e. mostly E's

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APPENDIX D

QUESTIONNAIRES TO IDENTIFY SIGNIFICANT OTHERS

Section Page

1. Generally Important In The Lives Of The Students 243

2. Concerned About How Well The Student Does In School. 244

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There are many people who are important in our lives. In the space below, list the Names of the people who you feel are important in YOUR life. Please indicate who each person is.

NAMES	WHO IS THIS PERSON?

If you finish before the time limit, please sit quietly.
Do not turn the page.

There are many people who are concerned about how well young people do in school. In the space below, list the NAMES of the people you feel are concerned about how well you do in school. Please indicate who each person is.

NAMES	**WHO IS THIS PERSON?**

If you finish before the time limit, please sit quietly. Do not turn the page.

APPENDIX E

PARENT QUESTIONNAIRES

Section Page

1. Experimental Group 247

2. Placebo Group 257

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PARENT QUESTIONNAIRE (EXPERIMENT GROUP)*

BUREAU OF EDUCATIONAL RESEARCH, MICHIGAN STATE UNIVERSITY

Junior High School Parent Study

INTRODUCTION:

At the first of these meetings you helped us to determine some of the attitudes of parents toward school work and their future plans. The information you gave was very helpful.

Because the study of human behavior is such a complex thing, we would like you to answer some of the questions you answered last fall.

The answers you give will not be shown to anyone else.

Your help in this study is greatly appreciated.

PLEASE FILL IN THE FOLLOWING INFORMATION

Mr.
Name: Mrs.__________________ __________________ __________________
(Last name) (First name) (Middle name)

Address: ______________________________ Phone ______________

Name of Child: ______________ ______________ ______________
(Last name) (First name) (Middle name)

Sex of Child: M __________ F __________

---

*This title did not appear on the questionnaires given to the parents.

Circle the letter in front of the statement which best answers each question.

1. **How do you rate your child in school ability compared with his/her close friends?**
   - **a. the best**
   - **b. above average**
   - **c. average**
   - **d. below average**
   - **e. the poorest**

2. **How do you rate your child in school ability compared with those in his/her class at school?**
   - **a. among the best**
   - **b. above average**
   - **c. average**
   - **d. below average**
   - **e. among the poorest**

3. **Where do you think your child would rank in his/her class in high school?**
   - **a. among the best**
   - **b. above average**
   - **c. average**
   - **d. below average**
   - **e. among the poorest**

4. **Do you think your child has the ability to complete college?**
   - **a. yes, definitely**
   - **b. yes, probably**
   - **c. not sure either way**
   - **d. probably not**
   - **e. no**

5. **Where do you think your child would rank in his/her class in college?**
   - **a. among the best**
   - **b. above average**
   - **c. average**
   - **d. below average**
   - **e. among the poorest**

6. **In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think it is that your child could complete such advanced work?**
   - **a. very likely**
   - **b. somewhat likely**
   - **c. not sure either way**
   - **d. unlikely**
   - **e. most unlikely**

Go on to the next page

7. Forget for a moment how others grade your child's work. In your own opinion how good do you think his/her work is?
   - a. work is excellent
   - b. work is good
   - c. work is average
   - d. work is below average
   - e. work is much below average

8. What kind of grades do you think your child is capable of getting?
   - a. mostly A's
   - b. mostly B's
   - c. mostly C's
   - d. mostly D's
   - e. mostly E's

9. How important to you are the grades your child gets in school?
   - a. very important
   - b. important
   - c. not particularly important
   - d. grades don't matter to me at all

10. How important is it to you for your child to be high in his/her class in grades?
    - a. very important
    - b. important
    - c. not particularly important
    - d. doesn't matter to me at all

11. How do you feel if your child doesn't do as well in school as you know he/she can?
    - a. feel very badly
    - b. feel badly
    - c. don't feel particularly badly
    - d. doesn't bother me at all

12. How important is it to you to have your child do better than others in school?
    - a. very important
    - b. important
    - c. not particularly important
    - d. doesn't matter to me at all

13. Which statement best describes your child?
    - a. likes to get better grades than everyone else
    - b. likes to get better grades than almost everyone else
    - c. likes to get about the same grades as everyone else
    - d. doesn't care about any particular grades

14. In schoolwork does your child try to do better than others?
    - a. all of the time
    - b. most of the time
    - c. occasionally
    - d. never

15. How important to you are good grades compared with other aspects of school?
    - a. good grades are the most important thing in school
    - b. good grades are among the important things in school
    - c. some other things in school are more important
    - d. good grades don't matter to me at all

Now you will be asked to again answer some of the same questions, but this time about four different subjects which your child is now taking or has taken in the past.

Put an "X" in the box under the heading which best answers the question. Answer for all four subjects. (You will have one "X" on each line).

1. How do you rate your child's ability in the following school subjects compared with his/her close friends?

	the poorest	below average	average	above average	the best
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

2. How do you rate your child's ability in the following school subjects compared with those in his/her class at school?

	among the poorest	below average	average	above average	among the best
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

3. Where do you think your child would rank in his/her high school graduating class in the following subjects?

	among the poorest	below average	average	above average	among the best
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

Go on to the next page

4. **Do you think your child has the ability to do college work in the following subjects?**

	no	**probably not**	**not sure either way**	**yes, probably**	**yes, definitely**
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

5. **Where do you think your child would rank in his/her college class in the following subjects?**

	among the poorest	**below average**	**average**	**above average**	**among the best**
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

6. **How likely do you think it is that your child could complete advanced work beyond college in the following subjects?**

	most unlikely	**unlikely**	**not sure either way**	**somewhat likely**	**very likely**
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

Go on to the next page

7. Forget for a moment how others grade your child's work. In your own opinion how good do you think his/her work is in the following school subjects?

	much below average	below average	average	good	excellent
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

8. What kind of grades do you think your child is capable of getting in the following subjects?

	mostly E's	mostly D's	mostly C's	mostly B's	mostly A's
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

Go on to the next page

Please answer the following questions as you think your CHILD would answer them.

Circle the letter in front of the statement that best answers each question.

1. How do you think your CHILD would rate his/her school ability compared with other students his/her age?
- **a. among the best**
- **b. above average**
- **c. average**
- **d. below average**
- **e. among the poorest**

2. Where do you think your CHILD would say he/she would rank in his/her class in high school?
- **a. among the best**
- **b. above average**
- **c. average**
- **d. below average**
- **e. among the poorest**

3. Do you think that your CHILD would say he/she has the ability to complete college?
- **a. yes, definitely**
- **b. yes, probably**
- **c. not sure either way**
- **d. probably not**
- **e. definitely not**

4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think your CHILD would say it is that he/she could complete such advanced work?
- **a. very likely**
- **b. somewhat likely**
- **c. not sure either way**
- **d. somewhat unlikely**
- **e. very unlikely**

5. What kind of grades do you think your CHILD would say he/she is capable of getting in general?
- **a. mostly A's**
- **b. mostly B's**
- **c. mostly C's**
- **d. mostly D's**
- **e. mostly E's**

Go on to the next page

6. How far do you think your CHILD expects to go in school?
   - a. expects to quit as soon as possible
   - b. expects to go to high school for a while
   - c. expects to graduate from high school
   - d. expects to go to secretarial or trade school
   - e. expects to go to college for a while
   - f. expects to graduate from college
   - g. expects to do graduate work beyond college

7. In general, would your CHILD say he/she is doing as well in school as he/she is capable of doing?
   - a. yes, definitely
   - b. yes, probably
   - c. not sure either way
   - d. probably not
   - e. definitely not

8. What grade do you think your CHILD would say he/she is capable of getting in Mathematics?
   - a. A
   - b. B
   - c. C
   - d. D
   - e. E

9. What grade do you think your CHILD would say he/she is capable of getting in English (Reading)?
   - a. A
   - b. B
   - c. C
   - d. D
   - e. E

10. What grade do you think your CHILD would say he/she is capable of getting in Social Studies?
    - a. A
    - b. B
    - c. C
    - d. D
    - e. E

11. What grade do you think your CHILD would say he/she is capable of getting in Science?
    - a. A
    - b. B
    - c. C
    - d. D
    - e. E

Go on to the next page

Most children have one teacher whom they call their "favorite" teacher. Does your child have one teacher whom he/she seems to like best?

Yes ____ No ____ Don't know ____

If so,

What is this teacher's name? ______________________

What subject (s) does he/she have this teacher for?

____

Now answer the following questions as you think this TEACHER would answer them. If he does not have a favorite teacher, or if you don't know who it is, simply answer the questions in terms of your reaction to any teacher he might like.

Circle the letter in front of the statement which best answers each question.

1. How do you think this TEACHER would rate your child's school ability compared with other students of the same age?
   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

2. Where do you think this TEACHER would say your child would rank in his/her class in high school?
   a. among the best
   b. above average
   c. average
   d. below average
   e. among the poorest

3. Do you think that this TEACHER would say your child has the ability to complete college?
   a. yes, definitely
   b. yes, probably
   c. not sure either way
   d. probably not
   e. definitely not

4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think this TEACHER would say it is that your child could complete such advanced work?
   a. very likely
   b. somewhat likely
   c. not sure either way
   d. somewhat unlikely
   e. very unlikely

Go on to the next page

5. **What kind of grades do you think this TEACHER would say your child is capable of getting in general?**
   - **a. mostly A's**
   - **b. mostly B's**
   - **c. mostly C's**
   - **d. mostly D's**
   - **e. mostly E's**

6. **How far do you think this TEACHER expects your child to go in school?**
   - **a. He (she) expects my child to quit as soon as possible**
   - **b. He (she) expects my child to go to high school for a while**
   - **c. He (she) expects my child to graduate from high school**
   - **d. He (she) expects my child to go to secretarial or trade school**
   - **e. He (she) expects my child to go to college for a while**
   - **f. He (she) expects my child to graduate from college**
   - **g. He (she) expects my child to do graduate work beyond college**

7. **In general, would this TEACHER say your child is doing as well as he/she is capable of doing?**
   - **a. yes, definitely**
   - **b. yes, probably**
   - **c. not sure either way**
   - **d. probably not**
   - **e. definitely not**

PARENT QUESTIONNAIRE (PLACEBO GROUP) *

BUREAU OF EDUCATIONAL RESEARCH, MICHIGAN STATE UNIVERSITY

Adolescent Problems Seminar

INTRODUCTION:

At the first of these meetings, you helped us to determine some of the attitudes of parents toward school, and school problems. The information you gave was very helpful.

Because the study of school problems is such a complex thing, we would like you to answer some of the questions you answered last fall. This will help us in analyzing these problems.

The answers you give will not be shown to anyone else.

Your help in this study is greatly appreciated.

PLEASE FILL IN THE FOLLOWING INFORMATION

Name: Mr. / Mrs. ____________ (Last name) ____________ (First name) ____________ (Middle name)

Address: ______________________ Phone ________

Name of Child: ____________ (Last name) ____________ (First name) ____________ (Middle name)

Sex of Child: M ________ F ________

*This title did not appear on the questionnaires given to the parents.

Circle the letter in front of the statement which best answers each question.

1. How do you rate your own school training as compared to the training your child is getting today?
    - a. It was much better
    - b. It was slightly better
    - c. It was about the same
    - d. It was slightly poorer
    - e. It was much poorer

2. How would you rate your teachers in school as compared to those your child has today?
    - a. They were much better
    - b. They were slightly better
    - c. They were about the same
    - d. They were slightly poorer
    - e. They were much poorer

3. How would you rate your own class in school as compared to the class in which your child is a member today?
    - a. Our class was much better
    - b. Our class was slightly better
    - c. Our class was about the same
    - d. Our class was slightly poorer
    - e. Our class was much poorer

4. How would you compare the ability of your school class with that of your child's class, on the average, to complete college?
    - a. My class was definitely more capable
    - b. My class was probably more capable
    - c. I'm not sure either way
    - d. My class was probably less capable
    - e. My class was definitely not college material in general

5. Where do you think your school class as a whole would have ranked in college?
    - a. Among the best
    - b. Above average
    - c. Average
    - d. Below average
    - e. Among the poorest

6. How well prepared do you feel your child and his classmates will be to go into professions such as medicine, law or college teaching which require advanced college work?
    - a. Very well prepared
    - b. Somewhat better than most
    - c. Adequately prepared
    - d. Not too adequately prepared
    - e. Poorly prepared

Go on to next page

7. How well do you feel the schools today teach children to study independently?
   - **a. Very well**
   - **b. Better than a generation ago**
   - **c. About the same as a generation ago**
   - **d. Less well than a generation ago**
   - **e. Very poorly**

8. How accurately do you feel letter grades tell the true ability of an individual?
   - **a. Very accurately**
   - **b. As accurately as possible**
   - **c. Not too accurately**
   - **d. Very poorly**

9. How good do you feel grades are as an indicator of the future success of an individual in a job?
   - **a. Very good**
   - **b. Good**
   - **c. Not particularly good**
   - **d. Not good at all**

10. How fair do you feel most teachers are when they assign letter grades to students?
   - **a. Very fair**
   - **b. As fair as possible**
   - **c. Not too fair**
   - **d. Very unfair**

11. When it comes to grading, how do you feel about the teachers in your school?
   - **a. They seem to grade too low**
   - **b. They seem to grade about right**
   - **c. They seem to grade too high**

12. Which of the following subjects do you consider to be most important in order for an individual to be a good student?
   - **a. English**
   - **b. Science**
   - **c. Mathematics**
   - **d. Social Studies**

13. Which of the following subjects do you consider to be the least important in order for an individual to be a good student?
   - **a. English**
   - **b. Science**
   - **c. Mathematics**
   - **d. Social Studies**

Go on to next page

14. In matters relating to students, how would you rate the teachers in your school?
    a. Fair at all times
    b. Usually fair
    c. Sometimes unfair
    d. Frequently unfair

15. How do you feel about the contact administrators (principals, superintendents, etc.) in your school have with students?
    a. They are so concerned with students that they take on many responsibilities which should be left to the teachers
    b. They have just the right amount of contact with students
    c. They are so far away from the students that they are not aware of student problems

16. What is your opinion regarding homework for students in junior high school?
    a. Should be required daily of all students
    b. Should be required for only certain students
    c. Should not be required

17. What is your feeling about the importance of Parent-Teacher Associations?
    a. Very helpful
    b. Of some value
    c. No strong feelings either way
    d. Of little value
    e. Useless

18. How do you feel about most of the teachers in today's schools?
    a. They are full of life and stimulating
    b. They are somewhat lively
    c. They are dull and boring

19. Do you think it is more important for a teacher to be well trained in subject matter or have a good knowledge of children?
    a. Trained in subject-matter
    b. Knowledge of children
    c. Can't decide

20. Do you think it is more important for parents to be well trained in subject matter or have a good knowledge of children?
    a. Trained in subject-matter
    b. Knowledge of children
    c. Can't decide

21. As compared to your own school, how well do you think today's schools handle the problem of discipline?
    a. Much better today
    b. Somewhat better today
    c. About the same
    d. Not as well today
    e. Very poorly today

Go on to next page

22. How well do you feel that children in your school get along with others from different economic, social, racial and religious backgrounds?
    - a. Very well
    - b. Fairly well
    - c. Not as well as they could
    - d. Very poorly

23. In general, what do you think about schools teaching children how to get along with others?
    - a. Strongly agree
    - b. Agree
    - c. Can't decide
    - d. Strongly disagree

24. One of the reasons many children have trouble in junior and senior high school is the fact that they cannot read well. How does the reading ability of today's high school students compare with the reading ability of students when you went to school?
    - a. Today's children are much better
    - b. Today's children are somewhat better
    - c. About the same
    - d. Today's children are a little poorer
    - e. Today's children are much poorer readers

25. How important do you feel courses such as music, art, physical education, homemaking, shop, and the like are?
    - a. Very important
    - b. Important
    - c. Not very important
    - d. Should not be included

26. How important do you feel that outside activities such as sports, band, and clubs are as compared to regular subjects for junior high school students?
    - a. Outside activities are most important
    - b. Outside activities are a little more important than regular subjects
    - c. Both are equally important
    - d. Outside activities are less important
    - e. Outside activities should be done away with

27. Do you think it is more important that a child be good in sports or well liked by others of the same sex?
    - a. Good in sports
    - b. Well-liked by others of same sex
    - c. Can't decide

28. Do you think it is more important for a child to be good in sports or a leader in school activities?
    - a. Good in sports
    - b. Leader in school activities
    - c. Can't decide

Go on to next page

5

29. How important is it for a child to participate in school activities?
    - a. Very important
    - b. Quite important
    - c. Somewhat important
    - d. Of little importance
    - e. Not important

30. How do you feel about the physical training program in your school?
    - a. There is too much
    - b. It is about right
    - c. There is not enough

31. How would you rate the lecture method of teaching as compared to other forms of teaching?
    - a. It is the best form of teaching
    - b. It should be used along with other methods
    - c. It should not be used often

32. How do you feel about films, TV, etc.?
    - a. They are used more than they should be
    - b. They are used as much as they should be
    - c. They are used less than they should be

33. Some schools, in addition to teachers, employ specialists to help students with personal, vocational and educational problems. What is your feeling about such services in your school?
    - a. There are too many specialists
    - b. There are about enough
    - c. There are not enough such services to meet the needs of the students

34. How do you feel about memory work and the learning of important facts in your school?
    - a. There is too much of it
    - b. There is enough
    - c. There is not enough of it

35. In general, what is your attitude toward the school which your child attends?
    - a. Very good
    - b. More good than poor
    - c. More poor than good
    - d. Very poor

36. How much do today's schools include parents in planning the curriculum?
    - a. They pay too much attention to the wishes of parents
    - b. They include parents in the planning to about the right degree
    - c. Parents have too little voice in the planning

Go on to next page

37. The number of subjects which are offered in most schools today is
    - a. Too many
    - b. Just about right
    - c. Not enough

38. There is much concern today about the "gifted" child in our schools. Do you feel that the "gifted" children should be put in special classes?
    - a. Yes
    - b. No
    - c. Can't decide

39. What is your feeling about competition and cooperation in your school?
    - a. There is too much competition
    - b. There is too much cooperation
    - c. There is about the right balance

40. There is much discussion today about the American schools' training of students in science and related fields. What is your opinion of what your school is doing in this field?
    - a. There is too much science
    - b. There is just about the right amount of such training
    - c. There is not enough science

41. How well do you think American schools are doing in comparison to other countries in preparing children for modern life?
    - a. Much better than other countries
    - b. Slightly better than other countries
    - c. About the same as other countries
    - d. Less well than other countries
    - e. Very poorly

Circle the letter in front of the statement which best answers each question.

1. How do you rate your child in school ability compared with his/her close friends?
    - a. the best
    - b. above average
    - c. average
    - d. below average
    - e. the poorest

2. How do you rate your child in school ability compared with those in his/her class at school?
    - a. among the best
    - b. above average
    - c. average
    - d. below average
    - e. among the poorest

3. Where do you think your child would rank in his/her class in high school?
    - a. among the best
    - b. above average
    - c. average
    - d. below average
    - e. among the poorest

4. Do you think your child has the ability to complete college?
    - a. yes, definitely
    - b. yes, probably
    - c. not sure either way
    - d. probably not
    - e. no

5. Where do you think your child would rank in his/her class in college?
    - a. among the best
    - b. above average
    - c. average
    - d. below average
    - e. among the poorest

6. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think it is that your child could complete such advanced work?
    - a. very likely
    - b. somewhat likely
    - c. not sure either way
    - d. unlikely
    - e. most unlikely

7. Forget for a moment how others grade your child's work. In your own opinion how good do you think his/her work is?
    - a. work is excellent
    - b. work is good
    - c. work is average
    - d. work is below average
    - e. work is much below average

Go on to the next page

3. What kind of grades do you think your child is capable of getting?
    a. mostly A's
    b. mostly B's
    c. mostly C's
    d. mostly D's
    e. mostly E's

9. How important to you are the grades your child gets in school?
    a. very important
    b. important
    c. not particularly important
    d. grades don't matter to me at all

10. How important is it to you for your child to be high in his/her class in grades?
    a. very important
    b. important
    c. not particularly important
    d. doesn't matter to me at all

11. How do you feel if your child doesn't do as well in school as you know he/she can?
    a. feel very badly
    b. feel badly
    c. don't feel particularly badly
    d. doesn't bother me at all

12. How important is it to you to have your child do better than others in school?
    a. very important
    b. important
    c. not particularly important
    d. doesn't matter to me at all

13. Which statement best describes your child
    a. likes to get better grades than everyone else
    b. likes to get better grades than almost everyone else
    c. likes to get about the same grades as everyone else
    d. doesn't care about any particular grades

14. In schoolwork does your child try to do better than others?
    a. all of the time
    b. most of the time
    c. occasionally
    d. never

15. How important to you are good grades compared with other aspects of school?
    a. good grades are the most important thing in school
    b. good grades are among the important things in school
    c. some other things in school are more important
    d. good grades don't matter to me at all

Go on to the next page

Now you will be asked to again answer some of the same questions, but this time about four different subjects which your child is now taking or has taken in the past.

Put an "X" in the box under the heading which best answers the question. Answer for all four subjects. (You will have one "X" on each line).

1. How do you rate your child's ability in the following school subjects compared with his/her close friends?

	the poorest	below average	average	above average	the best
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

2. How do you rate your child's ability in the following school subjects compared with those in his/her class at school?

	among the poorest	below average	average	above average	among the best
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

3. Where do you think your child would rank in his/her high school graduating class in the following subjects?

	among the poorest	below average	average	above average	among the best
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

Go on to the next page

4. Do you think your child has the ability to do college work in the following subjects?

	no	probably not	not sure either way	yes, probably	yes, definitely
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

5. Where do you think your child would rank in his/her college class in the following subjects?

	among the poorest	below average	average	above average	among the best
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

6. How likely do you think it is that your child could complete advanced work beyond college in the following subjects?

	most unlikely	unlikely	not sure either way	somewhat likely	very likely
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

Go on to the next page

7. Forget for a moment how others grade your child's work. In your own opinion how good do you think his/her work is in the following school subjects?

	much below average	below average	average	good	excellent
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

8. What kind of grades do you think your child is capable of getting in the following subjects?

	mostly E's	mostly D's	mostly C's	mostly B's	mostly A's
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

Go on to the next page

Please answer the following questions as you think your CHILD would answer them.

Circle the letter in front of the statement that best answers each question.

1. How do you think your CHILD would rate his/her school ability compared with other students his/her age?
- **a. Among the best**
- **b. Above average**
- **c. Average**
- **d. Below average**
- **e. Among the poorest**

2. Where do you think your CHILD would say he/she would rank in his/her class in high school?
- **a. Among the best**
- **b. Above average**
- **c. Average**
- **d. Below average**
- **e. Among the poorest**

3. Do you think that your CHILD would say he/she has the ability to complete college?
- **a. Yes, definitely**
- **b. Yes, probably**
- **c. Not sure either way**
- **d. Probably not**
- **e. Definitely not**

4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think your CHILD would say it is that he/she could complete such advanced work?
- **a. Very likely**
- **b. Somewhat likely**
- **c. Not sure either way**
- **d. Somewhat unlikely**
- **e. Very unlikely**

5. What kind of grades do you think your CHILD would say he/she is capable of getting in general?
- **a. Mostly A's**
- **b. Mostly B's**
- **c. Mostly C's**
- **d. Mostly D's**
- **e. Mostly E's**

Go on to the next page

6. How far do you think your CHILD expects to go in school?
    - a. expects to quit as soon as possible
    - b. expects to go to high school for a while
    - c. expects to graduate from high school
    - d. expects to go to secretarial or trade school
    - e. expects to go to college for a while
    - f. expects to graduate from college
    - g. expects to do graduate work beyond college

7. In general, would your CHILD say he/she is doing as well in school as he/she is capable of doing?
    - a. Yes, definitely
    - b. Yes, probably
    - c. Not sure either way
    - d. Probably not
    - e. Definitely not

8. What grade do you think your CHILD would say he/she is capable of getting in Mathematics?
    - a. A
    - b. B
    - c. C
    - d. D
    - e. E

9. What grade do you think your CHILD would say he/she is capable of getting in English (Reading)?
    - a. A
    - b. B
    - c. C
    - d. D
    - e. E

10. What grade do you think your CHILD would say he/she is capable of getting in Social Studies?
    - a. A
    - b. B
    - c. C
    - d. D
    - e. E

11. What grade do you think your CHILD would say he/she is capable of getting in Science?
    - a. A
    - b. B
    - c. C
    - d. D
    - e. E

Go on to the next page

Most children have one teacher whom they call their "favorite" teacher. Does your child have one teacher whom he/she seems to like best?

Yes ____ No ____ Don't know ____

If so,

What is this teacher's name? ______________________________

What subject (s) does he/she have this teacher for?

____

Now answer the following questions as you think this TEACHER would answer them. If he does not have a favorite teacher, or if you don't know who it is, simply answer the questions in terms of your reaction to any teacher he might like.

Circle the letter in front of the statement which best answers each question.

1. How do you think this TEACHER would rate your child's school ability compared with other students of the same age?
   - a. among the best
   - b. above average
   - c. average
   - d. below average
   - e. among the poorest

2. Where do you think this TEACHER would say your child would rank in his/her class in high school?
   - a. among the best
   - b. above average
   - c. average
   - d. below average
   - e. among the poorest

3. Do you think that this TEACHER would say your child has the ability to complete college?
   - a. yes, definitely
   - b. yes, probably
   - c. not sure either way
   - d. probably not
   - e. definitely not

4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think this TEACHER would say it is that your child could complete such advanced work?
   - a. very likely
   - b. somewhat likely
   - c. not sure either way
   - d. somewhat unlikely
   - e. very unlikely

Go on to the next page

5. What kind of grades do you think this TEACHER would say your child is capable of getting in general?
   - a. Mostly A's
   - b. Mostly B's
   - c. Mostly C's
   - d. Mostly D's
   - e. Mostly E's

6. How far do you think this TEACHER expects your child to go in school?
   - a. He (she) expects my child to quit as soon as possible
   - b. He (she) expects my child to go to high school for a while
   - c. He (she) expects my child to graduate from high school
   - d. He (she) expects my child to go to secretarial or trade school
   - e. He (she) expects my child to go to college for a while
   - f. He (she) expects my child to graduate from college
   - g. He (she) expects my child to do graduate work beyond college

7. In general, would this TEACHER say your child is doing as well as he/she is capable of doing?
   - a. yes, definitely
   - b. yes, probably
   - c. not sure either way
   - d. probably not
   - e. definitely not

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APPENDIX F

STUDENT QUESTIONNAIRE

Experimental Groups

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THE STUDENT QUESTIONNAIRE
(EXPERIMENTAL GROUPS)*

BUREAU OF EDUCATIONAL RESEARCH, MICHIGAN STATE UNIVERSITY

Junior High School Study

INTRODUCTION:

Several times during the past years, you have helped us by answering some questions. We are doing a study of teenage attitudes and your opinions are an important part of the study. You have answered many of these questions before, but in order to be accurate in measuring your opinions, we must ask you to answer some of the same questions again.

All of the questions should be answered.

The answers you give will not be shown to teachers or anyone else in the school and will in no way affect your grades. No one will see the answers you give except the research staff.

Your help in this study is greatly appreciated.

Please fill in the following information

Name: ________________ ________________ ________________
(Last name) (First name) (Middle name)

Birthdate: ________________ (Month) (Day) (Year) Sex: M______ F______

Name of Present School:________________________________

*This title did not appear on the questionnaires given to the students.

DO NOT TURN THE PAGE UNTIL YOU ARE TOLD TO DO SO

1. Is there any one person in particular you feel has a special interest in how well you do in school?

   a. Yes

   b. No

2. Who is this person? (Please write the person's name in the correct blank space.)

   Friend ______________________________

   Relative ______________________________

   Counselor ______________________________

   Teacher ______________________________

   Other ______________________________

3. In what ways has this person influenced or helped you in school?

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There are many people who are concerned about how well young people do in school. In the space below, list the NAMES of the people you feel are concerned about how well you do in school. Please indicate who each person is.

NAMES	**WHO IS THIS PERSON?**

If you finish before the time limit, please sit quietly.
Do not turn the page.

Circle the letter in front of the statement which best answers each question.

1. How do you rate yourself in school ability compared with your close friends?
   - a. I am the best
   - b. I am above average
   - c. I am average
   - d. I am below average
   - e. I am the poorest

2. How do you rate yourself in school ability compared with those in your class at school?
   - a. I am among the best
   - b. I am above average
   - c. I am average
   - d. I am below average
   - e. I am among the poorest

3. Where do you think you would rank in your class in high school?
   - a. among the best
   - b. above average
   - c. average
   - d. below average
   - e. among the poorest

4. Do you think you have the ability to complete college?
   - a. yes, definitely
   - b. yes, probably
   - c. not sure either way
   - d. probably not
   - e. no

5. Where do you think you would rank in your class in college?
   - a. among the best
   - b. above average
   - c. average
   - d. below average
   - e. among the poorest

6. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think it is that you could complete such advanced work?
   - a. very likely
   - b. somewhat likely
   - c. not sure either way
   - d. unlikely
   - e. most unlikely

Go on to the next page

7. Forget for a moment how others grade your work. In your own opinion how good do you think your work is?
   - a. My work is excellent
   - b. My work is good
   - c. My work is average
   - d. My work is below average
   - e. My work is much below average

8. What kind of grades do you think you are capable of getting?
   - a. mostly A's
   - b. mostly B's
   - c. mostly C's
   - d. mostly D's
   - e. mostly E's

9. How important to you are the grades you get in school?
   - a. very important
   - b. important
   - c. not particularly important
   - d. grades don't matter to me at all

10. How important is it to you to be high in your class in grades?
   - a. very important
   - b. important
   - c. not particularly important
   - d. doesn't matter to me at all

11. How do you feel if you don't do as well in school as you know you can?
   - a. feel very badly
   - b. feel badly
   - c. don't feel particularly badly
   - d. doesn't bother me at all

12. How important is it to you to do better than others in school?
   - a. very important
   - b. important
   - c. not particularly important
   - d. doesn't matter to me at all

13. Which statement best describes you?
   - a. I like to get better grades than everyone else
   - b. I like to get better grades than almost everyone else
   - c. I like to get about the same grades as everyone else
   - d. I don't care about any particular grades

14. In your schoolwork do you try to do better than others?
   - a. all of the time
   - b. most of the time
   - c. occasionally
   - d. never

15. How important to you are good grades compared with other aspects of school?
   - a. Good grades are the most important thing in school
   - b. Good grades are among the important things in school
   - c. Some other things in school are more important
   - d. Good grades don't matter to me at all

Go on to the next page

Now we would like you to again answer some of the same questions, but this time about four different subjects which you are now taking or have taken in the past.

Put an "X" in the box under the heading which best answers the question. Answer for all four subjects. (You will have one "X" on each line).

1. How do you rate your ability in the following school subjects compared with your close friends?

	I am the poorest	I am below average	I am average	I am above average	I am the best
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

2. How do you rate your ability in the following school subjects compared with those in your class at school?

	I am among the poorest	I am below average	I am average	I am above average	I am among the best
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

3. Where do you think you would rank in your high school graduating class in the following subjects?

	among the poorest	below average	average	above average	among the best
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

4. Do you think you have the ability to do college work in the following subjects?

	no	probably not	not sure either way	yes, probably	yes, definitely
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

5. Where do you think you would rank in your college class in the following subjects?

	among the poorest	below average	average	above average	among the best
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

6. How likely do you think it is that you could complete advanced work beyond college in the following subjects?

	most unlikely	unlikely	not sure either way	somewhat likely	very likely
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

Go on to the next page

7. Forget for a moment how others grade your work. In your own opinion how good do you think your work is in the following school subjects?

	my work is much below average	my work is below average	my work is average	my work is good	my work is excellent
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

8. What kind of grades do you think you are capable of getting in the following subjects?

	mostly E's	mostly D's	mostly C's	mostly B's	mostly A's
Mathematics	☐	☐	☐	☐	☐
English (Reading)	☐	☐	☐	☐	☐
Social Studies	☐	☐	☐	☐	☐
Science	☐	☐	☐	☐	☐

Go on to the next page

Please answer the following questions as you think your PARENTS would answer them. If you are not living with your parents answer for the family with whom you are living.

Circle the letter in front of the statement that best answers each question.

1. How do you think your PARENTS would rate your school ability compared with other students your age?
    - a. among the best
    - b. above average
    - c. average
    - d. below average
    - e. among the poorest

2. Where do you think your PARENTS would say you would rank in your class in high school?
    - a. among the best
    - b. above average
    - c. average
    - d. below average
    - e. among the poorest

3. Do you think that your PARENTS would say you have the ability to complete college?
    - a. yes, definitely
    - b. yes, probably
    - c. not sure either way
    - d. probably not
    - e. definitely not

4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think your PARENTS would say it is that you could complete such advanced work?
    - a. very likely
    - b. somewhat likely
    - c. not sure either way
    - d. somewhat unlikely
    - e. very unlikely

5. What kind of grades do you think your PARENTS would say you are capable of getting in general?
    - a. mostly A's
    - b. mostly B's
    - c. mostly C's
    - d. mostly D's
    - e. mostly E's

Go on to the next page

6. How far do you think your PARENTS expect you to go in school?
    a. They expect me to quit as soon as I can
    b. They expect me to go to high school for a while
    c. They expect me to graduate from high school
    d. They expect me to go to secretarial or trade school
    e. They expect me to go to college for a while
    f. They expect me to graduate from college
    g. They expect me to do graduate work beyond college

7. In general, would your PARENTS say you are doing as well in school as you are capable of doing?
    a. yes, definitely
    b. yes, probably
    c. not sure either way
    d. probably not
    e. definitely not

8. What grade do you think your PARENTS would say you are capable of getting in Mathematics?
    a. A
    b. B
    c. C
    d. D
    e. E

9. What grade do you think your PARENTS would say you are capable of getting in English (Reading)?
    a. A
    b. B
    c. C
    d. D
    e. E

10. What grade do you think your PARENTS would say you are capable of getting in Social Studies?
    a. A
    b. B
    c. C
    d. D
    e. E

11. What grade do you think your PARENTS would say you are capable of getting in Science?
    a. A
    b. B
    c. C
    d. D
    e. E

Go on to the next page

Think about your favorite teacher - the one you like best; the one you feel is most concerned about your schoolwork.

What is this teacher's name?______________________________

What subject(s) do you have this teacher for?________________

____

Now answer the following questions as you think this TEACHER would answer them.

Circle the letter in front of the statement which best answers each question.

1. How do you think this TEACHER would rate your school ability compared with other students your age?
  - **a. among the best**
  - **b. above average**
  - **c. average**
  - **d. below average**
  - **e. among the poorest**

2. Where do you think this TEACHER would say you would rank in your class in high school?
  - **a. among the best**
  - **b. above average**
  - **c. average**
  - **d. below average**
  - **e. among the poorest**

3. Do you think that this TEACHER would say you have the ability to complete college?
  - **a. yes, definitely**
  - **b. yes, probably**
  - **c. not sure either way**
  - **d. probably not**
  - **e. definitely not**

4. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think this TEACHER would say it is that you could complete such advanced work?
  - **a. very likely**
  - **b. somewhat likely**
  - **c. not sure either way**
  - **d. somewhat unlikely**
  - **e. very unlikely**

Go on to the next page

5. What kind of grades do you think this TEACHER would say you are capable of getting in general?
   a. mostly A's
   b. mostly B's
   c. mostly C's
   d. mostly D's
   e. mostly E's

6. How far do you think this TEACHER expects you to go in school?
   a. He (she) expects me to quit as soon as I can
   b. He (she) expects me to go to high school for a while
   c. He (she) expects me to graduate from high school
   d. He (she) expects me to go to secretarial or trade school
   e. He (she) expects me to go to college for a while
   f. He (she) expects me to graduate from college
   g. He (she) expects me to do graduate work beyond college

7. In general, would this TEACHER say you are doing as well as you are capable of doing?
   a. yes, definitely
   b. yes, probably
   c. not sure either way
   d. probably not
   e. definitely not

Go on to the next page

Now we would like you to remember how well you did in school before this year (ninth grade).

1. In general, what kind of grades do you remember getting in school before ninth grade?
    - a. mostly A's
    - b. A's and B's
    - c. mostly B's
    - d. B's and C's
    - e. mostly C's
    - f. C's and D's
    - g. mostly D's
    - h. D's and E's
    - i. mostly E's

2. In general, how good do you think your work in school was before ninth grade?
    - a. very good
    - b. above average
    - c. average
    - d. below average
    - e. much below average

3. How good do you think your work in these school subjects was before ninth grade? (Answer once for each subject.)

	very good	above average	average	below average	much below average
Mathematics	____	____	____	____	____
English	____	____	____	____	____
Social Studies	____	____	____	____	____
Science	____	____	____	____	____

4. What grades do you remember getting in the following subjects before ninth grade? (Circle the letter grade for each subject.)

Mathematics	A	B	C	D	E
English or reading	A	B	C	D	E
Social Studies	A	B	C	D	E
Science	A	B	C	D	E

We would now like to know how you feel about some things concerning school. There are no right or wrong answers, just circle the answer you think is correct.

1. A person's feelings about school affect his work.

   a. True
   b. False

2. A person has attitudes about himself which he gets from other people.

   a. True
   b. False

3. If a person feels good about how he will do in a school subject, then he will do well in it.

   a. True
   b. False

4. Education is valued by many people such as parents, teachers, friends.

   a. True
   b. False

5. There are many people who are concerned about how well we do in school.

   a. True
   b. False

6. Some tests, such as I.Q. tests, are often emphasized too much, since I.Q. tests only measure what we know.

   a. True
   b. False

7. Most people can really do better in school than they really are doing.

   a. True
   b. False

APPENDIX G

COUNSELING QUESTIONNAIRES

Section Page

1. Counselor Evaluation Questionnaire 291

2. Informational Questionnaire. 295

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COUNSELOR EVALUATION FORM
Confidential

NAME ______________________________

AGE _______________ HEIGHT _______________ WEIGHT _______________

What high school will you attend next year? _________________________

DIRECTIONS: Please choose one answer which you think is best for each of the multiple-choice questions. You are encouraged to give your frank and honest opinion on each one. There are no right or wrong answers, simply answer each one in the way which best describes how you feel.

How would you describe the group sessions you have had with Mr. Hamachek?

1. Very valuable
2. Somewhat valuable
3. Of little value
4. Of no value

How would you describe the attitudes of the rest of the kids in this counseling group toward Mr. Hamachek?

1. Very favorable
2. Fairly favorable
3. Average
4. Slightly unfavorable
5. Very unfavorable

What do you think about the counseling sessions you have had with Mr. Hamachek?

1. Never want to miss them
2. Seldom want to miss them
3. Don't care whether I attend or not
4. I'd prefer not to attend
5. I dislike attending

How would you describe Mr. Hamachek's attitude toward you?

1. Very friendly and helpful
2. Just so-so - not real friendly, but not unfriendly either
3. Kind of unfriendly

Would you like to have Mr. Hamachek as a counselor again?

1. Yes, very much
2. Yes and no - I really don't care whether I do or not
3. No, definitely not

How would you describe Mr. Hamachek's attitude toward you?

1. Serves as a real inspiration to achievement
2. Stimulates me to improve
3. Contributes little to my development or improvement
4. Discourages and depresses me

Please write your frank and honest opinion to each of the following questions.

What are the one or more least satisfactory things about your counseling arrangement this school year?

What do you consider to be one or more of the best things about your counseling arrangement this school year?

Have the counseling sessions this school year helped you with your work and study?

☐ YES ☐ NO

State why you feel as you do.

What would you say is the most important thing you've gotten out of the counseling sessions this school year?

What would you say to a friend about getting Mr. Hamachek as a counselor?

Does Mr. Hamachek have any annoying habits, either of speech or behavior, that you wish he would break? If so, please name them.

Were there any things you liked about Mr. Hamachek's way of counseling? If so, what were they?

Were there any things you did not like about Mr. Hamachek's way of counseling? If so, what were they?

What did you like best about the counseling sessions this school year?

What did you find to be of least value to you in your counseling sessions this school year?

Would you like to have Mr. Hamachek as your counselor next year?

☐ YES ☐ NO

INFORMATIONAL QUESTIONNAIRE

DATE ____________________

I. PERSONAL AND FAMILY HISTORY:

1. Name ______________________ Age __________
2. Home Address ______________ Telephone No. ________
3. Birthplace ________________ Date of Birth ________ Mo. Day Year
4. Father's or Guardian's Name: ____________________
5. Father's Occupation? ____________________
6. Father's Education ____________ Mother's Education ____
7. Number of brothers? __________ Their ages? __________
8. Number of sisters? __________ Their ages? __________

II. YOUR EDUCATION:

1. What schools have you attended? When? Grade completed?

What schools have you attended?	When?	Grade completed?

2. How many years have you attended school? ___ Present grade? ________
3. Have you ever skipped or repeated a grade? ___ If so which ________

   Repeated ____________________

   Skipped ____________________
4. Was your last year's scholastic standing A B C D? (Check one)
5. List the subjects that,

You Like Best	You Dislike	Are Easiest	Are Hardest

6. What magazines do you read regularly? ____________________
7. What books have you read recently? ____________________

____

8. Have you been handicapped in your studies because you are a poor reader? Very much___, Some___, Not at all___ (Check one)

9. How many hours per week do you usually study? At home_____ At school_____

10. Check the items below that best describe your study conditions at home.

___Room of your own ___Share a room ___ Living room, etc.

___Very quiet, no radio ___Quiet, but not left alone ___Noisy with many distractions

11. Are your present study habits: Excellent?____Good?____ Fair?____Poor?____

12. What do you plan to do when you leave high school?

____go to college ____go to a business school

____go to a trade school ____go to work

____other plans, what are they?______________________________

13. If you have decided upon the particular school or college that you plan to enter after leaving high school, name it.

____

14. What achievement in school gave (or gives) you greatest satisfaction?______________________________________

____

III. YOUR INTERESTS AND TRAITS:

1. What are your present hobbies?____________________________

2. To what clubs and organizations do you belong or have you belonged in the past?______________________________

____

3. Approximately how many hours each week do you spend on each of the following activities?

going to movies____	dates____	housework____
going to church____	reading____	responsibilities such as chores, lawn mowing, etc.
playing out of doors ____	hobby____	____________________

4. What have been your principal recreations during the past year?

____

5. What unusual accomplishments of your own stand out most strongly in your mind?____________________________

IV. VOCATIONAL INTERESTS AND PLANS:

1. Name one or more kinds of work that you have considered for your life work. Give your first, second, and third choices in order of present preference.

A.________________ B.______________ C.____________

2. How long ago did you decide to enter the occupation which you have listed as your first choice?__________________

3. If you could do just as you wish, what would you want to be doing 10 and 12 years from now?____________________

4. What have you done to secure occupational information?_____

____

5. What further occupational information or contact would you like to have?__________________________

6. What vocational career has been suggested for you?________

____

Why was it suggested?__________________________

7. What vocation do (or did) your parents want you to follow?__

____

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APPENDIX H

SUMMARY REPORTS TO PARENTS

Section Page

1. Experimental Group Parents 301

2. Placebo Group Parents. 315

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SUMMARY REPORT TO PARENTS OF EXPERIMENTAL GROUP SUBJECTS*

JUNIOR HIGH SCHOOL PARENT SEMINAR

October 1962 - May 1963

CHILDREN - PARENTS - SCHOOL

A summary of a series of parent seminars on the abilities of children, their self-concepts, their significant others, and their achievement levels, conducted at Michigan State University.

BUREAU OF EDUCATIONAL RESEARCH, MICHIGAN STATE UNIVERSITY

*This title did not appear on the questionnaire given to the students.

MICHIGAN STATE UNIVERSITY East Lansing

College of Education - Office of Research and Publications

November 12, 1963

To The Parents:

This report has been prepared from questionnaire information, individual interviews, and school records. You, as parents of junior high school students, participated in the year-long seminar concerned with the relationship of the self-concept the student holds of himself with regard to his achievement. When we began these seminars in the fall of 1962, we discussed the question of how well children really achieve in school. We then went on to address ourselves to the question of whether parents could really help children to do better in school by helping them to believe they were capable of doing better.

Through your generous cooperation as parents of junior high school children, we have been able to test a theory which states that parents, as extremely significant people in the life of the adolescent, can significantly change the perception the child holds of himself with regard to school achievement. We have further discovered through these meetings that parents, when given an opportunity to address themselves specifically to this topic, to interact with other parents, and to communicate their attitudes to their children, also change their perceptions of their child's ability to achieve.

Analysis of the data indicated that parents (as a group) who participated in the seminar held a significantly more positive perception of their children as achievers in the spring; perceived their children as being far more capable to achieve in mathematics, social studies and science; and placed more importance on grades. Another interesting finding was that in the spring parents were significantly more positive about how the child's favorite teacher would rate his ability. Thus, it may be concluded that as parents address themselves to the task of communicating to the child that he is more capable, they in turn become more perceptive of how the child feels about himself as an achiever.

November 12, 1963

These and other findings from individuals included in the study hold great significance for working with junior high school students everywhere. Without your cooperation such a study would not have been possible. We are indeed grateful for the time, energy, and serious thought you have given to this project. Because of your dedication, there is ample evidence that you have helped your children to do much better in school.

The following report is submitted to you in the hope that it will summarize some of the basic concerns to which we addressed ourselves during the meetings, and will provide, through the case material included, a representative summary of the changes which reflected themselves in the attitudes and achievements of our boys and girls.

Sincerely,

Dr. Wilbur B. Brookover
Dr. Jean M. LePere
Mr. Shailer Thomas
Mrs. Natalie Sproull
Miss Jean Kreger
Mr. Fred Boersma

BUREAU OF EDUCATIONAL RESEARCH, MICHIGAN STATE UNIVERSITY

JUNIOR HIGH SCHOOL PARENT STUDY

October 1962 - May 1963

Mr. Fred Boersma

Dr. Wilbur B. Brookover

Mr. and Mrs. Lawrence DeWitt

Mr. and Mrs. James Eddy

Mr. and Mrs. Earle Fenton

Mr. and Mrs. Robert Jakeway

Miss Jean Kreger

Mr. and Mrs. Charles Kuhn

Dr. Jean LePere

Mrs. Quentin Lynch

Mr. and Mrs. Nile McClintic

Mrs. Richard McPhee

Mrs. Fred Mosier

Mr. and Mrs. Richard Pearson

Mr. and Mrs. Seymore Riggs

Mr. and Mrs. Gerald Scandling

Mrs. William Schnarr

Mr. and Mrs. Lewis Shroyer

Mr. and Mrs. Diamond Spaulding

Mrs. Natalie Sproull

Mr. and Mrs. Richard Stanley

Mrs. Laurence Therrian

Mr. Shailer Thomas

Mr. and Mrs. Francis White

Mr. and Mrs. Roger Woodhead

JUNIOR HIGH SCHOOL PARENT SEMINAR

The importance of our children doing well in school.

"How can we help our children to do better in school? This is a simple question which every educator and parent asks himself. Hidden in this question, however, are some of the most perplexing, serious, and important tasks we as individuals and as a society face. These tasks constitute a problem which demands our very best thinking along with the finest intention of man, a concern for the welfare of others.

We are living in a time which increasingly expects higher levels of academic achievement and training. It therefore is important that we maximize the achievement of our students. All students, not just some students, must be prepared to participate successfully in our society. The child of today, as no child ever before, will find his future success tied to his present success as a student.

We are facing a challenge which demands our immediate attention. This is illustrated by the fact that eighty-five per cent of the scientists who ever lived are living today. Rapid change is imminent. Our population will double within the life-time of our children. This too, will bring rapid change. The stresses and strains of international conflict, atomic development, automation, and living with an increasing dependence on one another are but a few of the many conditions which point out that we are on the threshold of a radically different existence. This means, of course, that the problem of helping our children is a problem which requires immediate attention. It makes demands upon us whether we be a parent or a teacher. We, as a nation, or as individuals, cannot afford to waste our human resources. But even more important, our children deserve the best we are able to give to them.

It is easier to stress the importance of our problem than it is to offer suggestions for its resolution. We might add, it is easier to offer remedies than it is to make our recommendations work. It is easier to tell others what they should do than to state what we ourselves can do. It is obvious that giving broad general solutions is less troublesome than making specific recommendations. "What can I do as a parent to help my child succeed?" is the tough question.

What can I do as a parent?

One good idea to begin with is that whatever we can do, it should be based upon the most complete understanding of human behavior we have available. Our knowledge of behavior, for example, tells us that if we believe the world is flat we will behave as if it is flat. Likewise our beliefs about the learning capabilities of our children influence how we will behave toward them. If we view them as being capable, we will expect more of them than if we judge them as being inadequate.

The same can be said for ourselves. If we view ourselves as being unable to learn mathematics, we are not likely to expect much from ourselves in this area and we are not going to act as a mathematician. The consequence of a lack of self-confidence is that the chance of success is decreased. Our view of ourself, then, restricts us or frees us in the tasks we face.

The same is true for our children. We have come to realize that the way our children view themselves, their self-concepts of ability, will affect their level of performance and their behavior in school. Furthermore, we have come to believe that changes in their level of performance will be commensurate with changes in their self-concepts. We can easily illustrate this with some of the changes we have seen take place in our children. Let us look at one case.

One boy, (for convenience, we shall call him "Tim") at the beginning of last fall (1962) tended to view himself as average in school ability compared to his close friends and as less than average in comparison to his class. Further, Tim indicated that he probably did not have the ability to compete in college. If he were to finish college, he did not see himself as doing any better than the average college student at best. Tim considered it most unlikely that he would ever be able to complete the advanced work required of a doctor, lawyer, or other professional. What were this young man's grades? They were barely above a "D". From the theme of our discussion meetings, this is the sort of performance we would expect of a person who sees himself as, at best, average in comparison with friends and less than able to compete with others.

Thus we might summarize with the conclusion that if a student sees himself as inadequate or incapable of learning certain subjects, he is not as likely to learn these subjects as well as if he viewed himself as capable or adequate. A positive regard for one's ability to learn is essential for one's best possible performance. This has been demonstrated by our research at Michigan State University.

Our first understanding is that contrary to what has been believed, the limits of our abilities are seldom reached. Whatever happens to be our ability in a given task, at a given moment, it is not fixed. We can increase or decrease our ability to learn. Our self-images set limits on our abilities. As we change our perceptions of ourselves, we thereby change our abilities. Therefore, the source of our children's self perceptions becomes an important consideration for understanding why he performs as he does in school.

Thus, our primary concern is to what effect can we influence the school performance of our children.

Let us take a closer look at Tim. When asked to indicate who were the most important people to him, both in his life in general and in school, Tim responded first off with his parent's names. He also felt that his parents were the ones most concerned about him. His parents were his "significant others". As was brought out in our seminar, there are certain "others" who largely shape a person's self-image. These very important "others" we call "significant others". Who are the "significant others" of our children? They may be teachers, friends, relatives, parents, or anyone who has a relationship with the child. When the child identifies with such persons and takes for his own views, their views of himself and the world, they are "significant others". "Significant others" then are those individuals who are important to us and from whom we learn our values, what to expect of others, and very importantly, what to expect from ourselves.

Let us now look at the parents of Tim. In the fall of 1962, the parents perceived their son's ability in school almost identically with one another. Further, their views of their son coincided with their son's self image. They rated him, at best, as having only average ability compared to his friends and class-mates. As for their son's chances in college, they expected that Tim would be below average or one of the poorest students.

If our "significant others" constantly tell us, or act in such a way, that we think that they think we are "pretty"; we will take on this belief and see ourself as "pretty". One consequence of this belief, if we haven't learned other values, is that we will behave as if we are "pretty". If the people who are significant to us tell us we are "important", we will in all likelihood behave as if we are "important." If significant others - parents, teachers and friends - are seen as thinking that we are "dumb" in mathematics, we will see ourselves as "dumb" and consequently limit our efforts in learning algebra or geometry.

What happened to the views of Tim's parents in the next nine months? During the period of our meetings, Tim's parents changed their views of him from that of a boy who was average or below average in ability, to a view that Tim was above average in ability. Both parents in the spring of 1963 now saw their son as being more able than before. They indicated in the spring that Tim was capable of getting either "A's" or "B's" in contrast to the lesser grades indicated in the previous fall. The parent's expectations and their assessment of their child's ability to achieve in school went up.

As parents, most of us are aware that there are "others" who are "significant" to our children. In fact, we generally sense that we are often 'significant others' or models for them. We try to be honest in their presence because we feel that we want them to be honest and we hope that they will take on as their own the value of honesty. As parents, we generally sense our importance but, and this is a big but, we seldom are aware of the full impact we do have.

Sometimes, as parents, it is easy to think of our children as unaffected by our expectations for them. This is especially so during the period of adolescence when the child's group of friends seems so important. It is a fact that outwardly the adolescent often behaves as if only his friends count. But are his friends so important? Most parents would be indeed surprised to find that even during the adolescent period, they are still the most important persons in their children's eyes. In fact, our own junior high school children tended to rate their parents first, even over their closest friends. In our research, we have found that more than ninety-seven per cent of the teenagers named their parents as persons who are important in their life. They care what their parents think of them.

What happened to Tim? His own self-conception of ability raised correspondently with his parents. In the spring, he too viewed himself as being able to get "A's" and 'B's". What was his average performance in the spring? His grades jumped from the previous "D" average to a "C plus" average. He now shows a greater confidence in himself and there is every reason to believe that his performance in school is going to improve even further.

Equally as important as the changes in achievement and self-concept of ability within Tim are the changes we see in his attitudes toward school. In an interview with Tim's parents, the father and mother indicated that their son now has ". . . more interest in school", and acts more ". . . grown up". Other statements from the parents further illustrated the very positive changes which have occurred.

As "significant others" we are important, then, in what we expect of our children for they will come to have similar expectations for themselves.

We are important in other ways too. As we reward their achievements, this reinforces their belief in themselves. When we exaggerate their failings, they come to have less faith in themselves, feeling even less capable, and in turn, they achieve less.

As models, when we behave as if achievement in reading or mathematics is as important as making the football team, we are helping to instill in our children a value for such activities. When we show interest in the achievements of other children, as well as our own, we communicate the importance and desirability of doing well in school.

We can cite other equally dramatic changes among ourselves and our children, such as the girl who jumped from a "C" to a "B" average. Not all of our children, however, made a complete one grade jump as did Tim. We would not expect such a rapid change in such a short time. Therefore, we were very pleased to note that during the first four months forty-two per cent of our children improved. However, by the end of nine short months, seventy-three per cent of our children improved. Our pleasure is further heightened by our recognition that this is merely the beginning for these students. As parents and educators we are going to see our children improve because we can see that our children are able to improve.

Further, we see that for many of us our personal relations with our children has improved. Many parents reported ". . . he was negative toward school in the beginning and now he has a better attitude", ". . . he respects us more", ". . . he is gradually coming to see the importance of school", ". . . we are more aware of each other", ". . . he acts more positive toward me", ". . . he is reading more", ". . . now he likes his teachers better", and ". . . he wants to go to school now".

Summary

To summarize some of the things we can do as parents to help our children do better in school, we conclude with several suggestions:

1. Show greater confidence in our children's ability to do better in all their tasks.
2. Recognize and communicate in words and action that whatever weaknesses are present, these weaknesses are not fixed but can be improved.
3. Reward their achievements with praise and endorsement so they can have a greater sense of success and ability.

4. Show by words and action that you think education is both important and desirable.
5. Recognize your own importance and responsibility in the views your children have of themselves.
6. Show that you trust them.

We might conclude with the feeling that if the parents and teachers mutually take these suggestions to heart, we will move a long way toward maximizing the best development of our children as individuals and society as a whole.

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SUMMARY REPORT TO PARENTS OF PLACEBO GROUP SUBJECTS*

ADOLESCENTS PROBLEMS SEMINAR

October 1962 - May 1963

CHILDREN - PARENTS - SCHOOLS

A summary of parental views as expressed in group discussion meetings at Michigan State University, on the problems of junior high school children, their schools, and parenthood.

BUREAU OF EDUCATIONAL RESEARCH, MICHIGAN STATE UNIVERSITY

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*This title did not appear on the questionnaires given to the students.

MICHIGAN STATE UNIVERSITY East Lansing

College of Education - Office of Research and Publications

October 23, 1963

To The Parents:

The problems of children, school, and parenthood, which is the subject of this report, could perhaps as well have been posed in two questions:
(1) "What are the needs of junior high school children?" and
(2) "How can these needs be met?"

As parents of school children you have cooperated over the course of a year in a series of discussion meetings for the purpose of gaining and offering some answers to these basic questions. You have shared your thoughts as well as sharing the views of others.

Recognizing that your cooperation has not been without cost to you in time, energy, and convenience, we of the Bureau of Educational Research at Michigan State University extend our sincerest appreciation to you. It is with this in mind that we have attempted to summarize for your information some of the feelings and attitudes you as a group have shared with us about the problems of children. We have drawn from three sources in this summary: (1) written reports of your discussion meetings; (2) your responses to questionnaires administered in the fall of 1962 and the spring of 1963; and (3) the personal reflections of some of the members of the group.

Our primary concern in this report is that we reflect the spirit of your views in addition to accurately reporting your expressions.

Sincerely,

Dr. Wilbur B. Brookover
Dr. J. M. LePere
Mr. Shailer Thomas
Mrs. Natalie Sproull
Miss Jean Kreger
Mr. Fred Boersma

BUREAU OF EDUCATIONAL RESEARCH, MICHIGAN STATE UNIVERSITY

ADOLESCENT PROBLEMS SEMINAR

October 1962 - May 1963

Members:

Mr. Fred Boersma

Dr. Wilbur B. Brookover

Mr. and Mrs. Arthur Churchill

Mr. and Mrs. Robert Conrad

Mrs. William Draher

Mr. and Mrs. Lester Foote

Mr. and Mrs. Ronald Harnett

Mrs. Maurice Joppie

Mrs. Palmer Karns

Mr. and Mrs. Carl Kinney

Miss Jeanne Kreger

Mrs. Richard LaPoint

Dr. Jean M. LePere

Mr. and Mrs. Robert Mann

Mrs. Almeda Ritter

Mr. and Mrs. Robert Rix

Mr. and Mrs. Hershel Roberts

Mr. and Mrs. Marion Robison

Mr. and Mrs. Harold Schneider

Mrs. Natalie Sproull

Mr. and Mrs. Lemuel Stanzel

Mr. Shailer Thomas

Mr. and Mrs. George Whitmore

Mr. and Mrs. Orrie Wirt

CHILDREN - PARENTS - SCHOOLS

What are some of our shared feelings?

First, we can say that through our group discussions we have generally come to recognize that other parents face the same kinds of problems with their school children as do we. They share with us similar aspirations, similar frustrations and similar concerns. We are not alone.

Secondly, through our group discussions we have seen that the school also shares our concern for the good of our children. While sometimes teachers, principals, counselors, and parents may not specifically agree, they always share the same general interest, that is, the welfare of the children. Thus, the group finds that teachers and parents must work together - they must mutually support each other in their efforts. This was illustrated in an early discussion meeting (1-10-63) when the group expressed: (1) ". . . that parents should back the teacher in order to achieve discipline in the school," and (2) ". . . that parents should respect the teachers, lend support, rather than downgrade teacher to child." Other illustrations for the need of mutual support on the part of parents and school could be given.

Another general concern expressed was with the quality of schools today. To the question: "How do you think your school class as a whole would have ranked in college?", several of you answered that your class would have done better than average. This was in the fall of 1962. When answering this same question in the spring of 1963, none of you expressed that your class was above average. This may suggest some change in attitude on the part of the group as a result of having participated in these discussion sessions.

Again, when asked last fall to compare your class with your child's school class, several of you rated your class as better than your child's. However, in the following spring only a few of you felt that your class was better than your child's, and a few of you felt your child's class was even better than yours.

Possibly we might interpret this as indicating that most of you have the feeling that schools today are at least as good as they used to be, a feeling you did not share last fall. In general, with a few exceptions, the feeling is that the schools of today compare favorably with the schools of the "good old days".

When we add to this your reaction to the question, "How well do you think American schools are doing in comparison to other countries in preparing children for modern life?", we find only a couple of responses indicating our schools as doing "less well than other countries." Well over half of the group responded "better" or "much better" than other countries and slightly less than half checked "about the same as others."

What does this mean? Does this mean we are completely satisfied with our schools? We do not think so. While we as a group generally respect the efforts of the schools to meet the needs of our children we are very concerned about improving these efforts. In our discussion meetings we have found many areas of fruitful disagreement where we "hashed" over deficiencies in the school and in ourselves. This is as it should be.

For example, there was rather serious concern over how counseling in the schools could become improved. The problem of getting more qualified counselors, of making it possible for counselors to get to know the children better and having inadequate funds was discussed at length. Judging by the questionnaire response, where only two persons indicated that there were "too many specialists", it would seem that the group largely favors the need of counselors for the student's welfare.

We examined the question of grouping children in school. We talked about the value of separating the gifted. Many of us expressed ourselves on this point and it wasn't always in agreement. However, there was one general agreement which permeated the entire group: that is, individual needs must be met.

We also took into account various problems in grouping the gifted. That several of us are seriously considering this matter is reflected by the intensity of our discussions and by the responses to the question, "Do you feel that the gifted children should be put in special classes?" In the fall of 1962, fifteen responded "yes". To this there were five in the spring who indicated that they were undecided. As a group then, it seems safe to say that most of us have some reservations about grouping our children according to "giftedness" and "nongiftedness," and that there are some values for the "gifted" as well as others in working and playing together in school. In fact, as expressed by several, we began to question the very notion of "giftedness".

A not too unrelated matter that was brought up (2-7-63) was that there was value in children learning to help and share with one another and that the talents of some should not cause them to be considered as "freaks". As stated at a later date (3-7-63), "Grouping in classes also causes grouping socially". Many of the parents did not like this and took very strong stands opposing grouping.

Other questions were raised (3-7-63): "What happens to the 'slow' and 'average' student in a grouping situation?" "What about the democratic notions of give and take?" "Do the gifted do better?" "Are you penalized for being in an accelerated group?"

Obviously such questions point to the reservations we have toward grouping.

Another question which sustained our interest for a time was the problem of grading. To the question, How accurately do you feel letter grades tell the true ability of an individual?", about a third of the group answered "not too accurately" or "very poorly" in the fall of 1962. In the spring of 1963, over half of the group responded "not too accurately". Also, in the fall there were 4 responses of "very accurate" while no one responded as such in the spring. Thus, in the spring the responses were either "as accurately as possible" or "not too accurate". This backs up a statement made (3-7-63) that ". . . grades are subjective."

However, as brought out in this meeting (3-7-63) grades are a "fact of life." They are part of our culture and as such the question of fairness in giving grades is important. This is especially true since they are used for college entrance, hiring for jobs, promotion, etc.

In answer to the question, "How fair do you feel most teachers are when they assign letter grades to students?", only about a sixth of the group said "not too fair" and while the rest indicated "as fair as possible", no one responded that teachers were "very fair".

When we take together the group's responses to the accuracy of grades and the fairness possible in giving them, it seems apparent that the group has serious doubts as to the possibility of very accurately measuring and reporting the progress of students.

The problem of grading and effective communication with parents, further illustrates this problem. Some of the parents indicated (11-29-62) that ". . . teachers usually give evaluations of the children which were vague, but positive. When report cards were given out, the grades were not the grades the parents had expected (on the basis of teacher comments) their children to receive." The group seemed to feel that teachers should try to better communicate the problems and progress of their children to the parents, that teachers should take the parents more into their confidence, and that grades in themselves were inadequate in doing this.

We might ask the question at this point, "What does our group expect of the school?" "What is the school's primary task?" From the discussions it is very apparent that we still feel that the learning of subject matter is important (e.g. history, English, geography, etc.). But it seems the group also expects more from the school than merely teaching subject matter. We infer this from the responses to the need for specialists to assist students. Further substantiation for this appears in the importance attached by the group to the ability to get along with others. Everyone responded on the questionnaire that they agreed or strongly agreed that the schools should teach children how to get along with one another. However, there was less agreement that the schools were doing a good job. One-fourth of the class indicated that the school was not "doing as well as they could", or "poorly" in helping children to. . . "get along with others of different economic, social, racial, and religious backgrounds."

Also, we might add, that overwhelmingly the group supported music, art, and other activities in the school. Everyone indicated on the questionnaire that such activities should be a part of the school program. Supervised activities in the community were also stressed (11-29-62), (e.g. participation in the Boy Scouts, baseball, church, etc.).

This does not mean that the group felt that subject learning was unimportant. Concern was expressed (3-7-63) over the learning of basic subjects'. From responses to the questionnaires and discussion comments (2-7-63) English and reading were the most important skills to be learned. Some attention was given to the need for remedial programs to help students do better.

It was brought to the group's attention by Dr. LePere that one of the problems children face, as do we, is that to learn basic skills does not mean we will retain them. Basic skills such as reading, writing and arithmetic are soon lost if they are not used.

Another problem, is that in our enthusiasm for teaching a skill we may overemphasize certain approaches and destroy interest. For example, phonetic drilling overemphasized may destroy an interest in reading in general. Sight reading alone may also present problems. Whatever it is we do, we must constantly develop and maintain an interest in learning. Reading must be developed, as other skills must be developed so they will be continually used in the later development of the children.

Out of this discussion the group became interested in children's literature and how to select readings for their children. From this we visited the Instructional Materials Center and examined children's books and magazines. We learned that we need to give children a "need" to read. Children need a purpose to read.

As to method of instruction, the general view was that it probably would not be a good idea to use lectures by themselves, but that other methods of teaching such as discussion and audio-visual materials should be employed in the classroom.

In fact, the group was of the general feeling that a variety of experiences including lectures, films, television, etc. could best be combined to help students develop and sustain interests.

The group seemed to feel, on the basis of responses to the questionnaires, that most teachers were generally lively and stimulating. Only a couple of people felt that most teachers were boring.

One overriding problem which caught the attention of everyone in the group was how to handle discipline in the classroom. It was suggested in a discussion section that more emphasis should be put on the fact that the child should know how to behave before he enters the classroom.

Then the question came up as to why the same group of children who misbehave in one class are often model students in another class. We felt as a group that children expect discipline and really have more respect for teachers who keep discipline in their classes. One method of control suggested (1-10-63) was that of keeping the students busy. This was applied to the home and community as well, when it was suggested that children be involved in supervised activities such as the Boy Scouts, etc.

The use of grades as a means of punishment was generally opposed (1-10-63) as it was especially bad for the poorer students. The group did express the view that often teachers are so limited in their methods of punishment that there is often no other recourse. It was also felt that there was a need for greater communication between teachers and parents. Most parents would welcome more information about their childs' behavior in school.

The parents would like to know when their children are misbehaving in school. It was felt that the better informed the parents are about their children the greater the likelihood that they will support the disciplinary actions of the teachers. Parents will usually support any justified punishment that is needed when they are aware of the reasons for the discipline. However, because of the pressures and obligations of teaching, it was realized that teachers often do not have the time or the opportunity to adequately discuss with parents the child's progress and behavior in school. Even so, it was agreed that better communication between teachers and parents is essential for a more effective discipline and understanding in school.

It was also pointed out that the problems of the child in school go beyond the school boundaries. Thus the child who is unrulely in the school situation is usually the same child who causes trouble in the community outside of school.

Dating and sex problems were also considered as being important (11-20-62). There was disagreement among the group over exactly what should be expected of parents in the regulation of various types of social activities. It was agreed that there was a need for a strict set of rules or guidelines which would direct the actions of parents as well as children in this area. One point which was suggested was that parents were often unsure as to what the attitudes and actions of other parents in the community were. Thus one's child might make a request to be allowed to attend some social function which the parents were not entirely confident about. They might have reservations about whether the affair was properly chaperoned, how late it would last, who was attending, or what night it was on. However, rather than have their child appear different from the others and perhaps be ridiculed by his friends, the parents often give in to the request despite their reservations. Yet these reservations or uncertainty are actually felt not just by one set of parents but by a majority of the parents in the community. This would seem to be an area where there could be better communication between the parents in the community as to the expectations and standards which they expect from their children. If there was some means by which parents could communicate with others in similar situations the parents might discover that others have the same standards for teenagers but that they, too, were uncertain about imposing these expectations on the students for fear of putting their child in an unfavorable light. One idea which has worked successfully in some cities but which was not mentioned by this group, has been to set up a committee of parents or of teenagers which would spell out the standards and expectations for teenage behavior. Thus, the committee could determine such things as the time that a teenager should be in, how many times he should go out in a week and other problems which parents and teenagers alike must resolve.

Further, it was realized that at this age children are maturing fast and that they often attempt to tryout some of the roles which they perceive as adult or grownup roles. Teenagers often rebel against their parents and demand greater freedom in where they go and what they do. Yet this is also the time that teenagers need the support and understanding of their families.

Taking a certain amount of liberty we might summarize the more general feelings of the group as follows:

1. As parents we are not alone in the kinds of problems we face. Further, this concern is also the concern of school personnel.
2. Thus, home and school must mutually assist and support one another.
3. While we appreciate the qualities of our school, we see the need for their continual improvement.
4. Generally, such services as counseling should be improved although there are many problems to be met.

5. There is cause for serious concern over the advisability of grouping children.
6. Grades are inadequate in reporting the development of children.
7. The teachers should make more of an effort to inform parents of the progress of their children.
8. Grades are over-emphasized.
9. The school has a responsibility which goes beyond merely teaching subject matter. Physical, social, and mental health are of importance, as well.
10. Thus, the group supports various activities in the school ranging from music to sports.
11. The problems of learning reading and other skills is not limited to a school class but to the developing need within the student to use his skills.
12. The troubles of school are often related to problems outside the school.
13. The pressures of teaching and parenthood often make communication between school and home difficult.
14. And finally, everyone, the community, home, and school can do more to help our children develop to their fullest.

APPENDIX I

CORRELATION MATRICES

Section Page

1. Males 331
2. Females 333
3. Males and Females Combined 335

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LONGITUDINAL CORRELATION MATRIX OF
MAJOR VARIABLES FROM GRADES FOUR
THROUGH TEN, MALES

N = 205
Decimals omitted

	1 Av I.Q., 4-6th	2 Av Rdg Sc, 4-6th	3 Av GPA, 4-6th	4 Gen S-Concept, 7th	5 Imp of Grades, 7th	6 S-C Math, 7th	7 S-C English, 7th	8 S-C Soc Std, 7th	9 S-C Science, 7th	10 Jan GPA, 7th	11 Soc-Ec Status, 8th	12 Gen S-Concept, 8th	13 Imp of Grades, 8th	14 S-C Math, 8th	15 S-C English, 8th	16 S-C Soc Std, 8th	17 S-C Science, 8th	18 P Parent Eval, 8th	19 P Peer Eval, 8th	20 P Teach Eval, 8th	21 Total P Eval, 8th	22 Jan GPA, 8th	23 Gen S-Concept, 9th	24 Imp of Grades, 9th	25 S-C Math, 9th	26 S-C English, 9th	27 S-C Soc Std, 9th	28 S-C Science, 9th	29 P Parent Eval, 9th	30 P Peer Eval, 9th	31 P Teach Eval, 9th	32 Total P Eval, 9th	33 Jan GPA, 9th	34 9th Grade I.Q.	35 Memory, Past Grds	36 Perform, Prior 10th	37 Gen S-Concept, 10th	38 Imp of Grades, 10th	39 S-C Math, 10th	40 S-C English, 10th	41 S-C Soc Std, 10th	42 S-C Science, 10th	43 P Parent Eval, 10th	44 P Peer Eval, 10th	45 P Teach Eval, 10th	46 Total P Eval, 10th	47 Jan GPA, 10th
1		77	71	44	09	34	37	33	43	62	28	48	-02	35	40	27	35	37	27	35	38	57	53	07	36	43	27	40	52	37	42	48	51	72	45	31	51	12	44	31	33	41	48	41	38	48	45
2			82	52	13	37	47	42	45	66	32	48	-01	34	47	32	36	43	29	33	40	65	56	07	33	56	39	42	57	40	46	52	60	65	51	37	51	12	40	42	43	46	54	47	45	54	50
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8									58	54	17	47	12	34	41	48	39	38	29	34	38	48	47	15	26	39	52	34	36	39	33	39	43	31	44	36	42	22	28	33	53	36	33	40	35	40	31
9										56	24	59	12	45	39	50	64	45	41	48	51	50	58	10	38	42	43	59	49	51	52	56	39	39	45	37	55	23	38	37	46	54	46	53	49	55	29
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15																53	45	53	44	45	54	48	52	18	28	70	49	42	45	46	46	50	46	36	40	28	50	27	24	50	47	43	45	46	43	50	30
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19																				63	88	43	53	27	43	43	40	45	51	62	51	60	43	26	46	37	49	31	32	31	34	37	49	54	47	56	29
20																					87	48	57	25	47	40	46	50	57	57	62	64	41	29	45	34	54	20	37	35	41	43	51	56	52	60	35
21																						55	61	28	48	49	49	54	64	67	64	71	49	34	52	41	59	31	37	38	43	46	59	60	56	66	37
22																							67	11	48	47	53	58	63	54	55	63	76	57	65	51	64	18	48	46	55	53	61	57	56	65	65
23																								28	64	65	60	64	71	70	71	78	62	53	65	48	73	23	54	45	52	60	60	63	63	69	46
24																									23	28	36	24	26	35	34	34	14	05	18	14	20	54	15	23	19	15	17	25	19	22	11
25																										39	31	53	62	61	65	69	44	31	46	34	53	19	67	31	33	45	49	44	50	54	32
26																											52	47	57	56	57	62	48	41	44	27	58	28	32	61	50	49	55	49	56	60	31
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31																																92	57	41	57	42	64	25	50	48	44	49	66	60	71	74	40
32																																	61	45	61	47	70	31	56	50	49	55	73	67	73	80	45
33																																		47	68	49	60	19	49	46	52	45	63	58	55	66	65
34																																			42	30	44	09	35	22	31	37	43	37	35	43	44
35																																				72	57	27	45	44	49	44	51	60	54	62	54
36																																					44	24	30	35	39	38	40	49	41	48	32
37																																						35	63	63	64	71	71	77	76	84	55
38																																							26	39	35	26	35	41	32	41	23
39																																								31	31	52	57	53	54	61	49
40																																									60	49	56	60	63	67	36
41																																										51	52	59	61	64	43
42																																											54	61	59	65	34
43																																												67	69	89	50
44																																													72	89	51
45																																														90	50
46																																															56
47																																															

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LONGITUDINAL CORRELATION MATRIX OF
MAJOR VARIABLES FROM GRADES FOUR
THROUGH TEN, FEMALES

N = 261
Decimals omitted

	Av I.Q., 4-6th 1	Av Rdg Sc, 4-6th 2	Av GPA, 4-6th 3	Gen S-Concept, 7th 4	Imp of Grades, 7th 5	S-C Math, 7th 6	S-C English, 7th 7	S-C Soc Std, 7th 8	S-C Science, 7th 9	Jan GPA, 7th 10	Soc-Ec Status, 8th 11	Gen S-Concept, 8th 12	Imp of Grades, 8th 13	S-C Math, 8th 14	S-C English, 8th 15	S-C Soc Std, 8th 16	S-C Science, 8th 17	P Parent Eval, 8th 18	P Peer Eval, 8th 19	P Teach Eval, 8th 20	Total P Eval, 8th 21	Jan GPA, 8th 22	Gen S-Concept, 9th 23	Imp of Grades, 9th 24	S-C Math, 9th 25	S-C English, 9th 26	S-C Soc Std, 9th 27	S-C Science, 9th 28	P Parent Eval, 9th 29	P Peer Eval, 9th 30	P Teach Eval, 9th 31	Total P Eval, 9th 32	Jan GPA, 9th 33	9th Grade I.Q. 34	Memory, Past Grds 35	Perform, Prior 10th 36	Gen S-Concept, 10th 37	Imp of Grades, 10th 38	S-C Math, 10th 39	S-C English, 10th 40	S-C Soc Std, 10th 41	S-C Science, 10th 42	P Parent Eval, 10th 43	P Peer Eval, 10th 44	P Teach Eval, 10th 45	Total P Eval, 10th 46	Jan GPA, 10th 47	
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11												20	-05	22	25	14	17	26	18	23	25	30	25	-04	18	19	15	16	25	20	17	24	29	32	22	21	24	11	23	14	17	18	26	24	25	28	25	11
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19																				62	86	44	55	21	36	40	46	45	56	60	52	58	39	32	41	36	54	16	32	38	47	49	50	50	39	53	32	19
20																					89	56	69	28	47	50	56	49	70	63	70	72	51	43	49	46	59	23	42	48	57	49	62	58	50	64	36	20
21																						59	73	28	48	54	59	54	74	72	70	76	54	45	53	49	67	25	44	50	61	57	68	64	51	69	40	21
22																							67	10	46	47	49	50	66	61	64	68	81	62	79	65	68	22	47	51	61	58	71	61	57	72	67	22
23																								32	60	65	68	68	80	77	80	79	61	58	63	57	72	27	51	53	65	62	70	66	60	74	44	23
24																									33	29	30	28	27	30	26	26	17	09	19	17	21	58	17	26	26	14	21	20	25	25	00	24
25																										33	35	44	54	58	51	56	44	38	39	40	49	19	72	31	31	38	48	47	43	52	34	25
26																											62	45	62	60	66	66	44	42	48	43	52	19	30	56	52	34	50	49	39	52	31	26
27																												47	60	57	58	61	47	36	52	45	57	31	34	56	72	45	52	55	45	57	34	27
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29																														81	79	91	58	58	61	54	65	26	49	52	61	56	77	68	57	76	44	29
30																															78	90	54	50	58	52	68	28	48	53	62	59	66	72	55	73	43	30
31																																88	55	48	58	52	64	21	39	51	58	56	66	63	57	70	36	31
32																																	59	55	62	56	70	27	49	55	64	61	75	71	57	77	43	32
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34																																			58	46	54	15	40	34	48	42	55	50	50	59	57	34
35																																				76	65	31	38	53	70	55	65	61	53	67	64	35
36																																					59	26	41	48	59	48	48	52	43	58	48	36
37																																						32	54	63	70	68	77	77	62	81	56	37
38																																							20	37	39	24	30	32	35	37	24	38
39																																								31	34	41	59	51	45	59	48	39
40																																									65	49	55	59	42	59	44	40
41																																										60	64	67	55	70	50	41
42																																											62	63	48	65	37	42
43																																												76	61	90	53	43
44																																													63	89	51	44
45																																														85	48	45
46																																															58	46
47																																																47

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LONGITUDINAL CORRELATION MATRIX OF
MAJOR VARIABLES FROM GRADES FOUR
THROUGH TEN, MALES AND FEMALES

N = 466
Decimals omitted

	1 Av I.Q., 4-6th	2 Av Rdg Sc, 4-6th	3 Av GPA, 4-6th	4 Gen S-Concept, 7th	5 Imp of Grades, 7th	6 S-C Math, 7th	7 S-C English, 7th	8 S-C Soc Std, 7th	9 S-C Science, 7th	10 Jan GPA, 7th	11 Soc-Ec Status, 8th	12 Gen S-Concept, 8th	13 Imp of Grades, 8th	14 S-C Math, 8th	15 S-C English, 8th	16 S-C Soc Std, 8th	17 S-C Science, 8th	18 P Parent Eval, 8th	19 P Peer Eval, 8th	20 P Teach Eval, 8th	21 Total P Eval, 8th	22 Jan GPA, 8th	23 Gen S-Concept, 9th	24 Imp of Grades, 9th	25 S-C Math, 9th	26 S-C English, 9th	27 S-C Soc Std, 9th	28 S-C Science, 9th	29 P Parent Eval, 9th	30 P Peer Eval, 9th	31 P Teach Eval, 9th	32 Total P Eval, 9th	33 Jan GPA, 9th	34 9th Grade I.Q.	35 Memory, Past Grds	36 Perform, prior 10th	37 Gen S-Concept, 10th	38 Imp of Grades, 10th	39 S-C Math, 10th	40 S-C English, 10th	41 S-C Soc Std, 10th	42 S-C Science, 10th	43 P Parent Eval, 10th	44 P Peer Eval, 10th	45 P Teach Eval, 10th	46 Total P Eval, 10th	47 Jan GPA, 10th	
1		77	69	45	07	37	34	39	38	63	30	45	02	40	43	32	35	41	29	39	41	61	52	07	36	41	32	36	52	43	45	52	56	72	51	39	52	13	40	35	40	38	50	46	44	53	50	1
2			81	53	12	36	47	46	42	71	34	47	01	35	52	35	34	46	34	41	46	69	56	06	30	56	38	36	57	49	51	58	64	66	58	46	53	11	34	46	47	41	56	49	47	58	54	2
3				57	14	43	50	49	43	79	29	55	04	45	51	43	37	50	40	47	52	78	61	10	40	56	45	41	62	57	58	64	71	62	65	50	59	18	43	49	52	43	63	55	52	64	60	3
4					42	67	68	65	64	60	26	65	22	54	52	50	47	59	51	57	63	56	64	22	39	51	50	46	56	58	56	60	48	40	53	43	55	23	35	47	47	42	52	50	48	57	37	4
5						28	37	28	28	21	06	24	44	23	22	17	16	30	25	24	30	12	17	42	10	19	15	15	20	28	20	24	06	01	15	10	13	33	02	19	14	09	15	16	16	17	06	5
6							51	48	47	44	21	51	16	63	32	37	34	44	40	45	49	44	54	22	54	36	40	34	47	50	47	52	37	34	40	32	46	21	51	30	37	36	41	45	40	48	30	6
7								67	53	52	20	49	19	34	48	39	34	43	37	41	46	46	50	20	29	53	45	30	43	49	45	49	44	31	45	38	43	19	24	48	42	29	43	41	38	46	35	7
8									58	56	16	49	10	36	42	45	40	44	36	42	46	50	50	11	25	42	53	35	46	46	42	47	46	37	51	42	46	20	27	39	53	35	42	43	40	47	35	8
9										48	20	56	16	40	41	48	57	48	40	53	53	44	54	14	31	41	44	52	48	48	52	53	38	35	42	34	47	23	30	38	45	47	45	46	44	52	25	9
10											32	61	08	50	50	49	45	55	46	51	57	82	63	10	37	52	47	43	62	59	56	65	74	59	70	56	59	17	37	50	57	45	62	56	51	64	61	10
11												28	01	25	25	17	23	28	23	26	29	29	27	02	19	24	19	22	29	24	23	28	27	26	23	19	29	10	22	20	18	25	27	30	28	32	25	11
12													35	66	61	70	65	71	60	67	75	60	74	26	48	53	56	58	65	65	65	70	53	43	56	49	69	32	44	49	57	57	63	61	54	67	38	12
13														27	25	30	28	30	27	30	33	08	23	58	21	18	22	23	23	26	27	28	09	-01	15	15	23	44	09	24	17	18	16	18	20	20	01	13
14															39	44	47	56	50	57	62	55	61	22	70	34	40	46	57	54	55	60	45	36	44	39	55	21	57	33	37	46	52	50	43	54	34	14
15																53	43	52	44	49	54	50	54	22	26	71	47	38	47	50	51	54	51	37	46	39	52	26	24	57	47	38	47	45	41	50	36	15
16																	53	59	48	58	62	53	59	27	35	45	68	46	52	51	50	55	49	30	49	44	57	31	30	45	65	46	50	50	44	54	34	16
17																		55	48	54	59	49	60	21	46	38	41	74	55	55	51	58	38	34	44	39	59	26	39	38	47	65	50	54	45	56	23	17
18																			67	73	90	54	61	24	43	47	50	50	67	61	61	69	48	40	47	43	60	29	38	39	49	49	63	56	48	63	34	18
19																				62	87	44	54	24	38	42	43	43	53	61	51	59	41	29	44	36	51	23	30	35	40	41	50	52	43	54	31	19
20																					88	51	63	26	47	43	51	49	64	59	66	68	45	37	46	41	56	22	39	40	49	45	57	57	51	62	34	20
21																						56	67	28	48	49	54	53	69	69	67	74	51	40	52	45	63	28	40	43	52	51	64	62	53	68	38	21
22																							66	11	44	48	50	50	64	58	59	65	79	59	74	59	64	19	45	50	57	51	66	59	56	68	67	22
23																								30	61	62	64	65	75	73	76	78	60	55	63	52	72	25	52	48	58	60	65	65	61	72	43	23
24																									27	29	33	25	26	33	30	30	16	07	19	16	20	55	15	25	22	13	19	23	22	24	07	24
25																										31	33	49	58	57	57	61	40	35	40	37	51	19	70	27	32	43	48	45	46	52	29	25
26																											55	39	57	58	60	62	48	40	47	35	52	22	26	61	48	35	51	47	45	54	35	26
27																												45	55	53	53	58	48	34	49	40	53	32	29	47	67	39	48	52	45	54	36	27
28																													62	58	56	63	41	40	43	39	58	26	42	32	43	72	53	55	48	58	26	28
29																														75	78	91	55	52	55	47	66	26	51	48	55	53	75	65	61	76	42	29
30																															75	89	54	42	58	50	62	30	45	47	52	51	62	66	57	69	42	30
31																																90	55	45	57	47	64	23	43	49	51	51	66	62	63	72	37	31
32																																	59	50	61	52	70	29	51	51	57	56	74	69	64	78	43	32
33																																		55	75	58	61	21	45	50	56	42	63	57	55	66	71	33
34																																			50	39	49	12	38	27	40	39	50	44	43	52	49	34
35																																				74	60	28	39	50	60	46	58	60	53	64	60	35
36																																					51	25	35	41	50	42	49	51	42	53	41	36
37																																						34	58	60	67	69	74	77	68	82	53	37
38																																							23	36	37	25	33	37	34	39	22	38
39																																								27	33	47	57	51	48	59	43	39
40																																									60	43	54	58	51	62	43	40
41																																										55	59	63	58	67	45	41
42																																											57	61	52	64	30	42
43																																												71	65	89	50	43
44																																													67	89	50	44
45																																														87	48	45
46																																															56	46
47																																																47